6406532787135. ✔ 5

6406532787136. ✖ 6

6406532787137. ✖ 7

Sub-Section Number : 7

Sub-Section Id : 640653124188

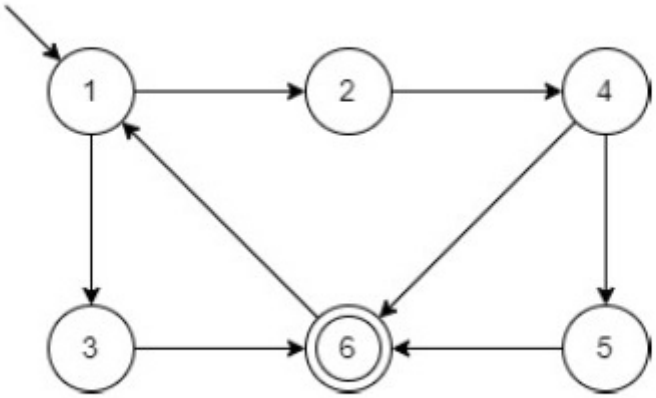
Question Shuffling Allowed : Yes

Question Number : 19 Question Id : 640653829881 Question Type : MSQ

Correct Marks : 5 Max. Selectable Options : 0

Question Label : Multiple Select Question

Consider the CFG given below.



From the given options, identify the valid test path(s).

Options :

6406532787142. ✔ [1, 2, 4, 6]

6406532787143. ✔ [1, 2, 4, 5, 6]

6406532787144. ✔ [1, 3, 6, 1, 2, 4, 6]

6406532787145. ✖ [1, 3, 6, 1, 2, 4, 5]

AI

Section Id : 64065359440

Section Number : 2

Section type : Online

Mandatory or Optional : Mandatory

Number of Questions : 8

Number of Questions to be attempted : 8

Section Marks : 25

Display Number Panel : Yes

Section Negative Marks : 0

Group All Questions : No

Enable Mark as Answered Mark for Review and Clear Response :	No
Section Maximum Duration :	0
Section Minimum Duration :	0
Section Time In :	Minutes
Maximum Instruction Time :	0
Sub-Section Number :	1
Sub-Section Id :	640653124189
Question Shuffling Allowed :	No

Question Number : 20 Question Id : 640653829882 Question Type : MCQ

Correct Marks : 0

Question Label : Multiple Choice Question

THIS IS QUESTION PAPER FOR THE SUBJECT "DEGREE LEVEL : AI: SEARCH METHODS FOR PROBLEM SOLVING (COMPUTER BASED EXAM)"

ARE YOU SURE YOU HAVE TO WRITE EXAM FOR THIS SUBJECT?
CROSS CHECK YOUR HALL TICKET TO CONFIRM THE SUBJECTS TO BE WRITTEN.

(IF IT IS NOT THE CORRECT SUBJECT, PLS CHECK THE SECTION AT THE TOP FOR THE SUBJECTS REGISTERED BY YOU)

Options :

6406532787146. ✔ YES

6406532787147. ✖ NO

Question Number : 21 Question Id : 640653829883 Question Type : MCQ

Correct Marks : 0

Question Label : Multiple Choice Question

Options :

6406532787148. ✔ Printed graph sheets were provided to me.

6406532787149. ✖ Printed graph sheets were not provided to me.

6406532787150. ✖ I did not use graph sheets.

Sub-Section Number :	2
Sub-Section Id :	640653124190
Question Shuffling Allowed :	No

Question Number : 22 Question Id : 640653829884 Question Type : MCQ
Correct Marks : 1
Question Label : Multiple Choice Question
Which of the following is/are guaranteed in any state space?
Options :
6406532787151. ✖ Each move is reversible.
6406532787152. ✖ Each state is reachable from every other state.
6406532787153. ✖ The goal state is reachable from the start state.
6406532787154. ✔ None of these.

Sub-Section Number : 3
Sub-Section Id : 640653124191
Question Shuffling Allowed : No

Question Number : 23 Question Id : 640653829885 Question Type : MSQ
Correct Marks : 2 Max. Selectable Options : 0
Question Label : Multiple Select Question
Consider the 3-2-1 Water Jug puzzle with three jugs A, B and C of capacities 3L, 2L and 1L, respectively.

A state is uniquely represented by the amount of water present in the three jugs, for example, the tuple (3,0,0) describes the state where jug A contains 3L of water and jugs B and C are empty.

Two basic (atomic) moves are allowed: (1.) pick up a jug and fill up (top up) another jug, and (2.) pick up a jug and empty it into another jug, without spilling any water in the process.

Start from (3,0,0) and construct the state space graph of this puzzle.

Which of the following states occur in the state space graph?
Options :
6406532787155. ✔ (2,1,0)

6406532787156. ✔ (0,2,1)

6406532787157. ✖ (0,1,1)

6406532787158. ✖ (2,2,0)

Sub-Section Number : 4
Sub-Section Id : 640653124192
Question Shuffling Allowed : No

Question Number : 24 Question Id : 640653829886 Question Type : MSQ

Correct Marks : 1 Max. Selectable Options : 0

Question Label : Multiple Select Question

Which of the following is true about the 3-2-1 Water Jug state space?

Options :

6406532787159. ✖ Every move is reversible.

6406532787160. ✔ Every state is reachable from every other state.

6406532787161. ✔ From (3,0,0) there is a path to (1,1,1).

Sub-Section Number :	5
Sub-Section Id :	640653124193
Question Shuffling Allowed :	No

Question Id : 640653829887 Question Type : COMPREHENSION Sub Question Shuffling Allowed : No Group Comprehension Questions : No Question Pattern Type : NonMatrix

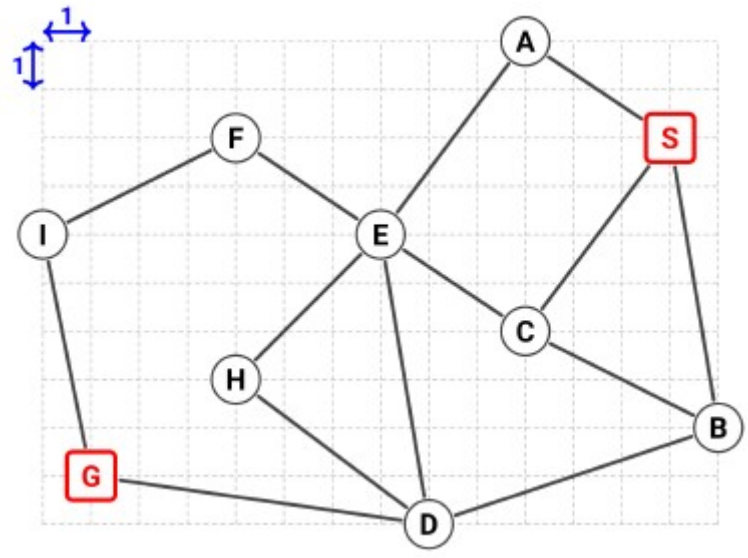
Question Numbers : (25 to 32)

Question Label : Comprehension

The figure shows a map with several locations on a grid where each tile is 1x1 in size.
The locations are at grid points and are connected by two-way edges.

Take S as the start node and G as the goal node.
The MoveGen function returns neighbours in alphabetical order.
The RemoveSeen procedure removes neighbours already present in OPEN/CLOSED lists.

Use Manhattan distance when needed.



When we say a node is inspected/expanded/refined it means: the node is picked up from OPEN, and goal test is called, if goal test fails then MoveGen is called and depending on the algorithm the neighbours are selectively placed in OPEN.

Based on the above data, answer the given subquestions.

Sub questions

Question Number : 25 Question Id : 640653829888 Question Type : SA

Correct Marks : 1

Question Label : Short Answer Question

List the first 4 nodes inspected by Depth First Search. List the nodes in the order they were inspected. If the algorithm terminates early then list the nodes inspected up until termination.

Enter a comma separated list of node labels.
NO SPACES, TABS, DOTS, BRACKETS, PARENTHESIS OR UNWANTED CHARACTERS.

Answer Format: S,X,Y,Z

Response Type : Alphanumeric

Evaluation Required For SA : Yes

Show Word Count : Yes

Answers Type : Equal

Answers Case Sensitive : No

Text Areas : PlainText

Possible Answers :

S,A,E,D

Question Number : 26 Question Id : 640653829889 Question Type : SA

Correct Marks : 1

Question Label : Short Answer Question

What is the path found by Depth First Search?

Enter the path as a comma separated list of node labels.
Enter NIL if there is no path.
NO SPACES, TABS, DOTS, BRACKETS, PARENTHESIS OR UNWANTED CHARACTERS.

Answer Format: S,X,Y,G

Response Type : Alphanumeric

Evaluation Required For SA : Yes

Show Word Count : Yes

Answers Type : Equal

Answers Case Sensitive : No

Text Areas : PlainText

Possible Answers :

S,A,E,D,G

Question Number : 27 Question Id : 640653829890 Question Type : SA

Correct Marks : 1

Question Label : Short Answer Question

List the first 4 nodes inspected by Breadth First Search. List the nodes in the order they were inspected. If the algorithm terminates early then list the nodes inspected up until termination.

Enter a comma separated list of node labels.

NO SPACES, TABS, DOTS, BRACKETS, PARENTHESIS OR UNWANTED CHARACTERS.
Answer Format: S,X,Y,Z
Response Type : Alphanumeric
Evaluation Required For SA : Yes
Show Word Count : Yes
Answers Type : Equal
Answers Case Sensitive : No
Text Areas : PlainText
Possible Answers :
S,A,B,C

Question Number : 28 Question Id : 640653829891 Question Type : SA
Correct Marks : 2
Question Label : Short Answer Question
What is the path found by Breadth First Search?

Enter the path as a comma separated list of node labels.
Enter NIL if there is no path.
NO SPACES, TABS, DOTS, BRACKETS, PARENTHESIS OR UNWANTED CHARACTERS.
Answer Format: S,X,Y,G
Response Type : Alphanumeric
Evaluation Required For SA : Yes
Show Word Count : Yes
Answers Type : Equal
Answers Case Sensitive : No
Text Areas : PlainText
Possible Answers :
S,B,D,G

Question Number : 29 Question Id : 640653829892 Question Type : SA
Correct Marks : 1
Question Label : Short Answer Question
List the first 4 nodes inspected by Best First Search. List the nodes in the order they were inspected. If the algorithm terminates early then list the nodes inspected up until termination.

Enter a comma separated list of node labels.
NO SPACES, TABS, DOTS, BRACKETS, PARENTHESIS OR UNWANTED CHARACTERS.
Answer Format: S,X,Y,Z
Response Type : Alphanumeric
Evaluation Required For SA : Yes
Show Word Count : Yes
Answers Type : Equal
Answers Case Sensitive : No

Text Areas : PlainText

Possible Answers :

S,C,E,H

Question Number : 30 Question Id : 640653829893 Question Type : SA

Correct Marks : 2

Question Label : Short Answer Question

What is the path found by Best First Search?

Enter the path as a comma separated list of node labels.
Enter NIL if there is no path.
NO SPACES, TABS, DOTS, BRACKETS, PARENTHESIS OR UNWANTED CHARACTERS.

Answer Format: S,X,Y,G

Response Type : Alphanumeric

Evaluation Required For SA : Yes

Show Word Count : Yes

Answers Type : Equal

Answers Case Sensitive : No

Text Areas : PlainText

Possible Answers :

S,C,E,D,G

Question Number : 31 Question Id : 640653829894 Question Type : SA

Correct Marks : 1

Question Label : Short Answer Question

List the first 4 nodes inspected by Hill Climbing. List the nodes in the order they were inspected. If the algorithm terminates early then list the nodes inspected up until termination.

Enter a comma separated list of node labels.
NO SPACES, TABS, DOTS, BRACKETS, PARENTHESIS OR UNWANTED CHARACTERS.

Answer Format: S,X,Y,Z

Response Type : Alphanumeric

Evaluation Required For SA : Yes

Show Word Count : Yes

Answers Type : Equal

Answers Case Sensitive : No

Text Areas : PlainText

Possible Answers :

S,C,E,H

Question Number : 32 Question Id : 640653829895 Question Type : SA

Correct Marks : 1

Question Label : Short Answer Question

What is the path found by Hill Climbing?

Enter the path as a comma separated list of node labels.
Enter NIL if there is no path.
NO SPACES, TABS, DOTS, BRACKETS, PARENTHESIS OR UNWANTED CHARACTERS.

Answer Format: S,X,Y,G

Response Type : Alphanumeric

Evaluation Required For SA : Yes

Show Word Count : Yes

Answers Type : Equal

Answers Case Sensitive : No

Text Areas : PlainText

Possible Answers :

NIL

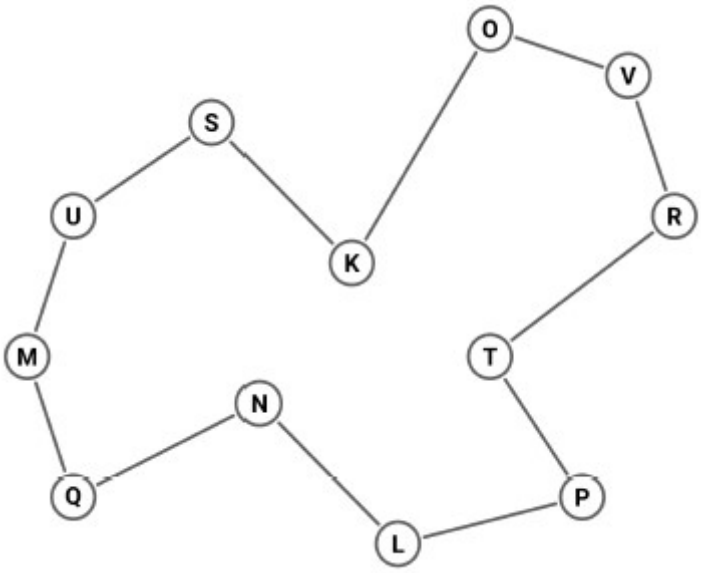
Sub-Section Number :	6
Sub-Section Id :	640653124194
Question Shuffling Allowed :	No

Question Id : 640653829896 Question Type : COMPREHENSION Sub Question Shuffling Allowed : No Group Comprehension Questions : No Question Pattern Type : NonMatrix

Question Numbers : (33 to 36)

Question Label : Comprehension

A tour of 12 cities is shown below. The edges are bi-directional. Use K,L,M,...,V as the reference (index) sequence to prepare tour representations.



Based on the above data, answer the given subquestions.

Sub questions

Question Number : 33 Question Id : 640653829897 Question Type : MSQ

Correct Marks : 1 Max. Selectable Options : 0

Question Label : Multiple Select Question

Select the valid path representations of the tour.

Options :

6406532787170. ✔ M,U,S,K,O,V,R,T,P,L,N,Q

6406532787171. ✔ K,S,U,M,Q,N,L,P,T,R,V,O

6406532787172. ✖ M,U,S,K,O,V,R,T,P,L,N,Q,M

6406532787173. ✖ K,S,U,M,Q,N,L,P,T,R,V,O,K

Question Number : 34 Question Id : 640653829898 Question Type : MSQ

Correct Marks : 1 Max. Selectable Options : 0

Question Label : Multiple Select Question

Select the valid adjacency representations of the tour.

Options :

6406532787174. ✔ O,N,U,Q,V,L,M,T,K,P,S,R

6406532787175. ✔ S,P,Q,L,K,T,N,V,U,R,M,O

6406532787176. ✖ P,N,U,Q,V,L,O,T,K,M,S,R

6406532787177. ✖ S,P,T,L,Q,K,N,V,U,R,M,O

Question Number : 35 Question Id : 640653829899 Question Type : MCQ

Correct Marks : 2

Question Label : Multiple Choice Question

Convert the path representation O,T,M,L,U,P,K,N,R,V,S,Q to ordinal representation.

Options :

6406532787178. ✔ 5,9,3,2,7,3,1,1,2,3,2,1

6406532787179. ✖ 3,10,8,1,3,7,5,5,3,1,1,1

6406532787180. ✖ 3,10,8,1,3,3,1,1,2,3,2,1

6406532787181. ✖ 5,9,3,2,7,7,5,5,3,1,1,1

Question Number : 36 Question Id : 640653829900 Question Type : SA

Correct Marks : 2

Question Label : Short Answer Question

Two tours in path representation are given below. Generate offspring using Partially Mapped Crossover (PMX), use the locations from 5 to 8 as the mapping segment. Enter one of the child tours in the textbox.

P1: M,U,S,K,O,V,R,T,P,L,N,Q

P2: O,T,M,L,U,P,K,N,R,V,S,Q

Enter a comma separated list of cities.
DO NOT ENTER SPACES, TABS, DOTS, BRACKETS OR EXTRANEOUS CHARACTERS.

Response Type : Alphanumeric

Evaluation Required For SA : Yes

Show Word Count : Yes

Answers Type : Set

Answers Case Sensitive : No

Text Areas : PlainText

Possible Answers :

U,N,M,L,O,V,R,T,K,P,S,Q

M,O,S,R,U,P,K,N,V,L,T,Q

Sub-Section Number :	7
Sub-Section Id :	640653124195
Question Shuffling Allowed :	No

Question Id : 640653829901 Question Type : COMPREHENSION Sub Question Shuffling Allowed : No Group Comprehension Questions : No Question Pattern Type : NonMatrix

Question Numbers : (37 to 41)

Question Label : Comprehension

The distance matrix for 6 cities and corresponding edge costs (in ascending order) are provided below. Use this information to construct TSP tours.

	A	B	C	D	E	F
A	-	75	96	13	77	59
B	75	-	74	15	26	22
C	96	74	-	60	29	54
D	13	15	60	-	25	50
E	77	26	29	25	-	52
F	59	22	54	50	52	-

AD	BD	BF	DE	BE
13	15	22	25	26

CE	DF	EF	CF	AF
29	50	52	54	59

CD	BC	AB	AE	AC
60	74	75	77	96

Based on the above data, answer the given subquestions.

Sub questions

Question Number : 37 Question Id : 640653829902 Question Type : SA

Correct Marks : 1

Question Label : Short Answer Question

Start from city C and construct a tour using Nearest Neighbour Heuristic. Enter the path

representation of the tour starting from city C. Use the same order in which cities were added to the tour.

Enter a comma separated list of city names.
NO SPACES, TABS, DOTS, BRACKETS, PARENTHESIS OR UNWANTED CHARACTERS.
Answer format: C,X,Y,Z

Response Type : Alphanumeric

Evaluation Required For SA : Yes

Show Word Count : Yes

Answers Type : Equal

Answers Case Sensitive : No

Text Areas : PlainText

Possible Answers :

C,E,D,A,F,B

Question Number : 38 Question Id : 640653829903 Question Type : SA

Correct Marks : 1

Question Label : Short Answer Question

What is the cost of the tour generated by Nearest Neighbour Heuristic?

Enter a number.
NO SPACES, TABS, DOTS, BRACKETS, PARENTHESIS OR UNWANTED CHARACTERS.
Answer format: 17

Response Type : Numeric

Evaluation Required For SA : Yes

Show Word Count : Yes

Answers Type : Equal

Text Areas : PlainText

Possible Answers :

222

Question Number : 39 Question Id : 640653829904 Question Type : SA

Correct Marks : 1

Question Label : Short Answer Question

Construct a tour using Greedy Heuristic. Enter the path representation of the tour starting from city C.

Enter a comma separated list of city names.
NO SPACES, TABS, DOTS, BRACKETS, PARENTHESIS OR UNWANTED CHARACTERS.
Answer format: C,X,Y,Z

Response Type : Alphanumeric

Evaluation Required For SA : Yes

Show Word Count : Yes

Answers Type : Set

Answers Case Sensitive : No

Text Areas : PlainText

Possible Answers :

C,E,F,B,D,A

C,A,D,B,F,E

Question Number : 40 Question Id : 640653829905 Question Type : SA

Correct Marks : 1

Question Label : Short Answer Question

What is the cost of the tour generated by Greedy Heuristic?

Enter a number.
NO SPACES, TABS, DOTS, BRACKETS, PARENTHESIS OR UNWANTED CHARACTERS.
Answer format: 17

Response Type : Numeric

Evaluation Required For SA : Yes

Show Word Count : Yes

Answers Type : Equal

Text Areas : PlainText

Possible Answers :

227

Question Number : 41 Question Id : 640653829906 Question Type : SA

Correct Marks : 1

Question Label : Short Answer Question

Take C as the fulcrum node and compute the **two** missing values in the savings list (full list) given below. Construct the savings tour. Enter the path representation of the tour starting from city C.

AD	BD	BF	AB	AF	BE	DE	DF	AE	EF
?	?	106	95	91	77	64	64	48	31

Enter a comma separated list of city names.
NO SPACES, TABS, DOTS, BRACKETS, PARENTHESIS OR UNWANTED CHARACTERS.
Answer format: C,X,Y,Z

Response Type : Alphanumeric

Evaluation Required For SA : Yes

Show Word Count : Yes

Answers Type : Set

Answers Case Sensitive : No

Text Areas : PlainText

Possible Answers :

C,E,A,D,B,F

C,F,B,D,A,E

Deep Learning

Section Id :	64065359441
Section Number :	3
Section type :	Online
Mandatory or Optional :	Mandatory
Number of Questions :	15
Number of Questions to be attempted :	15
Section Marks :	50
Display Number Panel :	Yes
Section Negative Marks :	0
Group All Questions :	No
Enable Mark as Answered Mark for Review and Clear Response :	No
Section Maximum Duration :	0
Section Minimum Duration :	0
Section Time In :	Minutes
Maximum Instruction Time :	0
Sub-Section Number :	1
Sub-Section Id :	640653124196
Question Shuffling Allowed :	No

Question Number : 42 Question Id : 640653829907 Question Type : MCQ

Correct Marks : 0

Question Label : Multiple Choice Question

THIS IS QUESTION PAPER FOR THE SUBJECT "DEGREE LEVEL : DEEP LEARNING (COMPUTER BASED EXAM)"

ARE YOU SURE YOU HAVE TO WRITE EXAM FOR THIS SUBJECT?
CROSS CHECK YOUR HALL TICKET TO CONFIRM THE SUBJECTS TO BE WRITTEN.

(IF IT IS NOT THE CORRECT SUBJECT, PLS CHECK THE SECTION AT THE TOP FOR THE SUBJECTS REGISTERED BY YOU)

Options :

6406532787188. ✔ YES

6406532787189. ✖ NO

Sub-Section Number : 2