Indian Institute of Technology, Madras - Centre for Continuing Education

Notations :

1.Options shown in green color and with ✔ icon are correct.

2.Options shown in red color and with ✖ icon are incorrect.

Question Paper Name :	IIT M QUIZ 1 DEGREE QPF2 16 Oct 2022
Subject Name :	2022 Oct: IIT M QUIZ 1 DEGREE QPF2
Creation Date :	2022-10-10 18:08:50
Duration :	180
Total Marks :	270
Display Marks:	Yes
Share Answer Key With Delivery Engine :	Yes
Actual Answer Key :	Yes
Calculator :	Scientific
Magnifying Glass Required? :	No
Ruler Required? :	No
Eraser Required? :	No
Scratch Pad Required? :	No
Rough Sketch/Notepad Required? :	No
Protractor Required? :	No
Show Watermark on Console? :	Yes
Highlighter :	No
Auto Save on Console?	Yes
Change Font Color :	No
Change Background Color :	No

Change Theme :	No
Help Button :	No
Show Reports :	No
Show Progress Bar :	No

Group I

Group Number :	1
Group Id :	6406539326
Group Maximum Duration :	0
Group Minimum Duration :	90
Show Attended Group? :	No
Edit Attended Group? :	No
Break time :	0
Group Marks :	270
Is this Group for Examiner? :	No
Examiner permission :	Cant View
Show Progress Bar? :	No
Revisit allowed for group Instructions? :	Yes
Maximum Instruction Time :	0
Minimum Instruction Time :	0
Group Time In :	Minutes
Navigate To Group Summary From Last Question? :	No
Disable Submit Button During Assessment? :	No

Speech Tech

Section Id :	64065323919
Section Number :	1

Section type :	Online
Mandatory or Optional :	Mandatory
Number of Questions :	1
Number of Questions to be attempted :	1
Section Marks :	25
Display Number Panel :	Yes
Group All Questions :	No
Enable Mark as Answered Mark for Review and Clear Response :	Yes
Maximum Instruction Time :	0
Sub-Section Number :	1
Sub-Section Id :	64065355446
Question Shuffling Allowed :	Yes

Question Number : 1 Question Id : 640653387044 Question Type : MCQ Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Correct Marks : 25

Question Label : Multiple Choice Question

THERE IS NO SPEECH TECHNOLOGY QP IN FORENOON SESSION

Options :

6406531287067. ✔ YES

6406531287068. ✖ NO

Industry 4.0

Section Id :	64065323920
Section Number :	2
Section type :	Online
Mandatory or Optional :	Mandatory

Number of Questions :	10
Number of Questions to be attempted :	10
Section Marks :	20
Display Number Panel :	Yes
Group All Questions :	No
Enable Mark as Answered Mark for Review and Clear Response :	Yes
Maximum Instruction Time :	0
Sub-Section Number :	1
Sub-Section Id :	64065355447
Question Shuffling Allowed :	No

Question Number : 2 Question Id : 640653387045 Question Type : MCQ Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Correct Marks : 0

Question Label : Multiple Choice Question

THIS IS QUESTION PAPER FOR THE SUBJECT "DEGREE LEVEL: INDUSTRY 4.0"

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 :

6406531287069. ✔ YES

6406531287070. ✖ NO

Sub-Section Number :	2
Sub-Section Id :	64065355448
Question Shuffling Allowed :	Yes

Question Number : 3 Question Id : 640653387046 Question Type : MCQ Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction

Time : 0

Correct Marks : 1

Question Label : Multiple Choice Question

Identify the correct progression of the industry?

Options :

6406531287071. ✖ Steam engine -> IT ->Assembly line ->IOT

6406531287072. ✔ Steam engine -> Assembly line ->IT ->IOT

6406531287073. ✖ Assembly line ->Steam engine -> IT ->IOT

6406531287074. ✖ Assembly line ->IT -> Steam engine ->IOT

Question Number : 4 Question Id : 640653387047 Question Type : MCQ Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Correct Marks : 1

Question Label : Multiple Choice Question

Which is the country of origin for Industry 4.0?

Options :

6406531287075. ✖ Japan

6406531287076. ✖ United States

6406531287077. ✔ Germany

6406531287078. ✖ United Kingdom

Question Number : 5 Question Id : 640653387048 Question Type : MCQ Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Correct Marks : 1

Question Label : Multiple Choice Question

Identify the Industry 4.0 version of transportation.

Options :

6406531287079. ✖ IC engine

6406531287080. ✖ Electric car

6406531287081. ✔ Hyperloop

6406531287082. ✖ Steam locomotive

Question Number : 6 Question Id : 640653387055 Question Type : MCQ Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Correct Marks : 1

Question Label : Multiple Choice Question

Location problem is dependent on which of the following factors?

Options :

6406531287091. ✖ Distance

6406531287092. ✖ Number of facilities

6406531287093. ✖ Optimization criteria

6406531287094. ✔ All of these

Question Number : 7 Question Id : 640653387056 Question Type : MCQ Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Correct Marks : 1

Question Label : Multiple Choice Question

Which of the below formula represent the Metropolitan metric distance?

Options :

6406531287095. ✖ $d_{ij} = \sqrt{(x_i - x_j)^2 + (y_i - y_j)^2}$

6406531287096. ✔ $d_{ij} = |(x_i - x_j)| + |(y_i - y_j)|$

6406531287097. ✖ $(x2 - x1) + (y2 - y1)$

6406531287098. ✖ All of these

Question Number : 8 Question Id : 640653387057 Question Type : MCQ Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Correct Marks : 1

Question Label : Multiple Choice Question

If we choose the **Euclidean** distance measure, how will the optimal solution be?

Options :

6406531287099. ✔ Euclidean distance measure will result in a single point optimal solution

6406531287100. ✖ Metropolitan metric distance will result in a range for the optimal solution

6406531287101. ✖ Both Euclidean distance measure will result in a single point optimal solution & Metropolitan metric distance will result in a range for the optimal solution are wrong

6406531287102. ✖ Both Euclidean distance measure will result in a single point optimal solution & Metropolitan metric distance will result in a range for the optimal solution are correct

Question Number : 9 Question Id : 640653387058 Question Type : MCQ Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Correct Marks : 1

Question Label : Multiple Choice Question

If we choose **Metropolitan distance** measure, how will the optimal solution be?

Options :

6406531287103. ✖ Euclidean distance measure will result in a single point optimal solution

6406531287104. ✔ Metropolitan metric distance will result in a range for the optimal solution

6406531287105. ✖ Both Euclidean distance measure will result in a single point optimal solution & Metropolitan metric distance will result in a range for the optimal solution are wrong

6406531287106. ✖ Both Euclidean distance measure will result in a single point optimal solution & Metropolitan metric distance will result in a range for the optimal solution are correct

Sub-Section Number : 3

Sub-Section Id : 64065355449

Question Shuffling Allowed : No

Question Id : 640653387049 Question Type : COMPREHENSION Sub Question Shuffling Allowed : No Group Comprehension Questions : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Question Numbers : (10 to 14)

Question Label : Comprehension

Currently, a company is using a layout that consists of 9 workstations. 200 sandwiches are produced in a day on this layout. A typical day consists of a single shift that runs for 10 hours. The sandwich-making process consists of 9 activities (the information is provided in the table below). Answer the given subquestions .

Activity ID	Activity Description	Activity Time (in seconds)	Preceding Activities
A	Wheat bag emptying	20	
B	Vegetable cleaning	10	
C	Bread baking	60	A
D	Vegetable cutting	40	B
E	Bread Cutting	20	C
F	Butter applying	5	E
G	Vegetable filling	5	F, E
H	Sandwich baking	15	G
I	Sandwich packing	5	H

Sub questions

Question Number : 10 Question Id : 640653387050 Question Type : SA Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Correct Marks : 2

Question Label : Short Answer Question

What is the current efficiency of the line where each activity is performed on a separate workstation (enter only the numerical value up to two decimal places without the “%” symbol. Example: if the answer is 99.756%” enter only “99.76”)?

Response Type : Numeric

Evaluation Required For SA : Yes

Show Word Count : Yes

Answers Type : Range

Text Areas : PlainText

Possible Answers :

11.10 to 11.12

Question Number : 11 Question Id : 640653387051 Question Type : SA Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Correct Marks : 1

Question Label : Short Answer Question

What is the maximum possible output that can be achieved?

Response Type : Numeric

Evaluation Required For SA : Yes

Show Word Count : Yes

Answers Type : Equal

Text Areas : PlainText

Possible Answers :

600

Question Number : 12 Question Id : 640653387052 Question Type : SA Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Correct Marks : 1

Question Label : Short Answer Question

Given the activity information, (theoretically) how many workstations can be reduced from the current line while achieving the maximum possible output?

Response Type : Numeric

Evaluation Required For SA : Yes

Show Word Count : Yes

Answers Type : Equal

Text Areas : PlainText

Possible Answers :

6

Question Number : 13 Question Id : 640653387053 Question Type : MSQ Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Correct Marks : 1

Question Label : Multiple Select Question

Which among the following layout is the best possible one to achieve the maximum possible output? (choose all that is applicable)

Options :

6406531287086. ✔ (A, B)→(C)→(D, E)→ (F, G, H, I)

6406531287087. ✖ (A)→(C)→(B, E, F)→ (D, G, H) → (I)

6406531287088. ✔ (A, B)→(C)→(D)→ (E, F, G, H, I)

6406531287089. ✖ (A, B)→(C)→(D, G)→ (E, F, H, I)

Question Number : 14 Question Id : 640653387054 Question Type : SA Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Correct Marks : 1

Question Label : Short Answer Question

What is the efficiency of the best possible layout chosen in the previous question (entre only the numerical value up to two decimal places without the "%" symbol. Example: if the answer is 99.756%" enter only "99.76")?

Response Type : Numeric

Evaluation Required For SA : Yes

Show Word Count : Yes

Answers Type : Equal

Text Areas : PlainText

Possible Answers :

75

Sub-Section Number : 4

Sub-Section Id : 64065355450

Question Shuffling Allowed : No

Question Id : 640653387059 Question Type : COMPREHENSION Sub Question Shuffling Allowed : No Group Comprehension Questions : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Question Numbers : (15 to 18)

Question Label : Comprehension

Consider the following table, for the supplier selection problem. This table contains supplier attributes for 10 suppliers as explained in the tutorial. Answer the given subquestions

Supply network	Employee skills	Quality reputation	Price premium	Customers	Management
3	1	3	3	2	1
2	2	1	1	1	2
1	1	1	1	2	1
2	3	2	2	3	3
3	3	3	3	3	2
3	2	2	3	2	3
2	1	3	2	3	2
3	2	3	3	1	3
3	2	3	3	2	1
1	1	1	1	1	1

Sub questions

Question Number : 15 Question Id : 640653387060 Question Type : MCQ Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Correct Marks : 1.5

Question Label : Multiple Choice Question

How many itemsets are there with cardinality/number of elements equal to 3?

Options :

6406531287107. ✖ 3060

6406531287108. ✖ 8538

6406531287109. ✔ 816

6406531287110. ✖ 18

Question Number : 16 Question Id : 640653387061 Question Type : MCQ Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Correct Marks : 1.5

Question Label : Multiple Choice Question

How many itemsets have support value greater than or equal to 0.3?

Options :

6406531287111. ✔ 13

6406531287112. ✖ 9

6406531287113. ✖ 21

6406531287114. ✖ 7

Question Number : 17 Question Id : 640653387062 Question Type : MCQ Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Correct Marks : 2

Question Label : Multiple Choice Question

What is the probability of observing {Price_Premium = 3, Quality_reputation =3}?

Options :

6406531287115. ✖ 0.33

6406531287116. ✖ 0.55

6406531287117. ✔ 0.4

6406531287118. ✖ 0.3

Question Number : 18 Question Id : 640653387063 Question Type : MCQ Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction

Time : 0

Correct Marks : 2

Question Label : Multiple Choice Question

How many association rules have minimum support of 0.4?

Options :

6406531287119. ✔ 12

6406531287120. ✖ 25

6406531287121. ✖ 38

6406531287122. ✖ 15

SPG

Section Id :	64065323921
Section Number :	3
Section type :	Online
Mandatory or Optional :	Mandatory
Number of Questions :	33
Number of Questions to be attempted :	33
Section Marks :	50
Display Number Panel :	Yes
Group All Questions :	No
Enable Mark as Answered Mark for Review and Clear Response :	Yes
Maximum Instruction Time :	0
Sub-Section Number :	1
Sub-Section Id :	64065355451
Question Shuffling Allowed :	No

Question Number : 19 Question Id : 640653387064 Question Type : MCQ Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction

Time : 0

Correct Marks : 0

Question Label : Multiple Choice Question

THIS IS QUESTION PAPER FOR THE SUBJECT "DEGREE LEVEL : STRATEGIES FOR PROFESSIONAL GROWTH"

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 :

6406531287123. ✔ YES

6406531287124. ✖ NO

Sub-Section Number :	2
Sub-Section Id :	64065355452
Question Shuffling Allowed :	No

Question Id : 640653387065 Question Type : COMPREHENSION Sub Question Shuffling Allowed : No Group Comprehension Questions : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Question Numbers : (20 to 21)

Question Label : Comprehension

Read the case study, then answer the given subquestions that follow in about 200-300 words each.

CASE INCIDENT

Negative Aspects of Collaboration?

Teams can perform well or poorly, which leaves an overriding question: Are collaboration's negative aspects so severe that we should avoid making decisions and working in teams?

Groups and teams need more time to process multiple pieces of information and coordinate what they know. Daniel Kahneman (Israeli-American psychologist, who was awarded the 2002 Nobel Memorial Prize in Economic Sciences) and colleagues also warn that when committees and groups

make recommendations, they've often "fallen in love" with a particular idea and are no longer thinking rationally. These problems of biases can be magnified when a team of people are making a decision collectively. Look no further than the U.S. Congress in recent years to see instances where a group decision-making process might lead to a worse outcome than if one consistent course of action were pursued.

So what can be done to minimize these biases? The problems of coordination and collaboration suggest that we should invoke team decision-making only when it appears that pooling information will lead to better decisions than individual decision-making. Experts advise that decision-makers receiving advice from teams should always ask whether the team's recommendations contain any self-interested biases. It's also important to see whether the team has developed an emotional attachment to one course

of action or has succumbed to groupthink. Finally, run down a checklist of the heuristics and biases we've described earlier in the book to see whether the group might be prone to making these decision errors.

Sub questions

Question Number : 20 Question Id : 640653387066 Question Type : SA Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Correct Marks : 5

Question Label : Short Answer Question

Think about a time when you've been in a team that had to make a collective decision that didn't turn out well. Discuss what the team could have done differently to arrive at a decision that worked for the team and the individuals.

Response Type : Alphanumeric

Evaluation Required For SA : No

Max Word Count : 300

Show Word Count : Yes

Min Word Count : 0

Highlight min word : Yes

Single Line Response : No

Number of Rows : 10

Number Of Columns : 70

Text Areas : PlainText

Question Number : 21 Question Id : 640653387067 Question Type : SA Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Correct Marks : 5

Question Label : Short Answer Question

Can you think of a type of decision that is probably better made by an individual than a team? Explain in your own words and give one example.

Response Type : Alphanumeric

Evaluation Required For SA : No

Max Word Count : 300

Show Word Count : Yes

Min Word Count : 0

Highlight min word : Yes

Single Line Response : No

Number of Rows : 10

Number Of Columns : 70

Text Areas : PlainText

Question Id : 640653387068 Question Type : COMPREHENSION Sub Question Shuffling Allowed : No Group Comprehension Questions : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Question Numbers : (22 to 23)

Question Label : Comprehension

Read the case study, then answer the given subquestions that follow in about 200-300 words each.

CASE INCIDENT

Doing My Own Thing

Rita Lowe has worked for the same boss for 11 years. Over coffee one day, her friend Sara asked

her, “What is it like to work for old Charlie?” Rita replied, “Oh, I guess it’s okay. He pretty much leaves me alone. I more or less do my own thing.” Then Sara said, “Well, you’ve been at that same job for 11 years. How are you doing in it? Does it look like you will ever be promoted? If you don’t mind me saying so, I can’t for the life of me see that what you do has anything to do with the operation.” Rita replied, “Well, first of all, I really don’t have any idea of how I am doing. Charlie never tells me, but I’ve always taken the attitude that no news is good news. As for what I do and how it contributes to the operation around here, Charlie mumbled something when I started the job about being important to the operation, but that was it. We really don’t communicate very well.”

Sub questions

Question Number : 22 Question Id : 640653387069 Question Type : SA Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Correct Marks : 5

Question Label : Short Answer Question

Analyze Rita’s last statement: “We really don’t communicate very well.” What is the status of communication in this professional relationship?

Response Type : Alphanumeric

Evaluation Required For SA : No

Max Word Count : 300

Show Word Count : Yes

Min Word Count : 0

Highlight min word : Yes

Single Line Response : No

Number of Rows : 10

Number Of Columns : 70

Text Areas : PlainText

Question Number : 23 Question Id : 640653387070 Question Type : SA Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Correct Marks : 5

Question Label : Short Answer Question

Give two examples of how the communication process can be improved and effective in this company. Discuss.

Response Type : Alphanumeric

Evaluation Required For SA : No

Max Word Count : 300

Show Word Count : Yes

Min Word Count : 0

Highlight min word : Yes

Single Line Response : No

Number of Rows : 10

Number Of Columns : 70

Text Areas : PlainText

Sub-Section Number :	3
Sub-Section Id :	64065355453
Question Shuffling Allowed :	Yes

Question Number : 24 Question Id : 640653387072 Question Type : MCQ Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Correct Marks : 1

Question Label : Multiple Choice Question

In October 2017, President Trump sought to deflect a news story reporting on links between his campaign and Russia by tweeting the following: “Who paid for it, Russia, the FBI or the Dems (or all)?” Trump attempted to diffuse the situation by:

Options :

6406531287133. ✖ twisting the semantics or meaning of the words.

6406531287134. ✔ attempting to discredit the source.

6406531287135. ✖ raging about a different topic.

6406531287136. ✖ attempting to create emotional disconnects.

Question Number : 25 Question Id : 640653387074 Question Type : MCQ Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Correct Marks : 1

Question Label : Multiple Choice Question

Select the statement that describes a growth mindset:

Options :

6406531287141. ✔ I can't do this yet

6406531287142. ✖ I can't improve

6406531287143. ✖ I don't want to make a mistakes

6406531287144. ✖ I am not good at this

Question Number : 26 Question Id : 640653387075 Question Type : MCQ Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Correct Marks : 1

Question Label : Multiple Choice Question

What is a distinguishing feature of a team?

Options :

6406531287145. ✖ When team members exhibit individual skills, like when one is numbers-oriented and another is good at written communication.

6406531287146. ✔ Synergy, is the process of combining two or more actions that result in an effect that is much more than the total of the individual actions.

6406531287147. ✖ Information collection, necessary so that individuals can exchange the information they have with others so that everyone has what they need to do their jobs.

6406531287148. ✖ Individual goals, which must be assigned to keep individual players from social loading.

Question Number : 27 Question Id : 640653387076 Question Type : MCQ Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Correct Marks : 1

Question Label : Multiple Choice Question

What issues must a manager/ leader address when considering the composition of the team?

Options :

6406531287149. ✖ The right design for the position of team members will hold.

6406531287150. ✖ A common purpose, specific goals, and team efficacy.

6406531287151. ✖ Leadership style and organizational structure.

6406531287152. ✔ Diversity of team members and inclusivity.

Question Number : 28 Question Id : 640653387077 Question Type : MCQ Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Correct Marks : 1

Question Label : Multiple Choice Question

As per Howard Gardner's theory of multiple intelligences, intelligence includes:

Options :

6406531287153. ✖ A permanent change in behaviour as a result of experience.

6406531287154. ✔ A set of capabilities that allow an individual to learn.

6406531287155. ✖ The capacity of an individual to produce novel/ original answers to products

6406531287156. ✖ The ability to produce a single response to a specific question.

Question Number : 29 Question Id : 640653387078 Question Type : MCQ Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Correct Marks : 1

Question Label : Multiple Choice Question

Consider the following pairs:

1. Naturalistic Intelligence: Ability to recognize and understand the various patterns in nature
2. Spatial Intelligence: Capacity to perceive, understand and use visual information effectively
3. Intrapersonal Intelligence: Ability to understand others and social interactions

4. Interpersonal Intelligence: Ability to understand oneself and know one's thoughts, emotions, feelings, motives and desires, and how these influence their behaviour. Which of the pairs given above is/are correctly matched?

Options :

6406531287157. ✖ 1, 2 and 3 only

6406531287158. ✔ 1 and 2 only

6406531287159. ✖ 1, 3 and 4 only

6406531287160. ✖ 1, 2 and 4 only

Question Number : 30 Question Id : 640653387080 Question Type : MCQ Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Correct Marks : 1

Question Label : Multiple Choice Question

According to Nick Morgan, which of the following is/ are regarded as a "second conversation"?

Options :

6406531287165. ✔ Nonverbal communication

6406531287166. ✖ Inner chatter

6406531287167. ✖ Vertical communication

6406531287168. ✖ Personal communication

Question Number : 31 Question Id : 640653387081 Question Type : MCQ Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Correct Marks : 1

Question Label : Multiple Choice Question

Julian Treasure studies sound and advises businesses on how best to use it. He has given the acronym RASA, which is the Sanskrit word for "juice" or "essence." Which one of the following expanded forms of the following acronyms is correct?

Options :

6406531287169. ✖ Read-Appreciate-Summarize-Appreciate

6406531287170. ✔ Receive-Appreciate-Summarize-Ask

6406531287171. ✖ Receive-Acknowledge-Speak-Act

6406531287172. ✖ Read-Acknowledge-Summarize-Appreciate

Question Number : 32 Question Id : 640653387082 Question Type : MCQ Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Correct Marks : 1

Question Label : Multiple Choice Question

In people possessing a talent or innate intelligence mindset, what logical conclusion(s) can actually damage their success?

Options :

6406531287173. ✖ Innate intelligence is responsible for achievement, therefore study is unnecessary.

6406531287174. ✖ If they fail, they may not be as talented as people say.

6406531287175. ✖ Some people are meant to succeed and some are not.

6406531287176. ✔ All of these conclusions may damage the success of people with talent or innate mindsets

Question Number : 33 Question Id : 640653387083 Question Type : MCQ Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Correct Marks : 1

Question Label : Multiple Choice Question

Which of the following individuals is not showing resilience?

Options :

6406531287177. ✖ Maya's wedding cake was dropped just hours before her wedding. She calmly accepted an apology from the person who dropped the cake and made a few phone calls to local bakeries to get a decent replacement.

6406531287178. ✔ Ajith returned from war and has constant thoughts of suicide. He stays indoors often and does not like to socialize with family or friends.

6406531287179. ✖ Gargi contracted a life-threatening illness that crippled her from the waist down. She doesn't let this stop her from competing in the Special Olympics in her wheelchair.

6406531287180. ✖ Nancy was born prematurely at only 2 pounds. She is placed in the Neonatal Intensive Care Unit in the hospital for several months and emerges from the hospital as a strong and healthy baby

Question Number : 34 Question Id : 640653387084 Question Type : MCQ Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Correct Marks : 1

Question Label : Multiple Choice Question

Which of the following can help us in improving our listening skills and can benefit us in academic, professional, and personal contexts?

1. Make eye contact; focus on the person speaking; don't answer your phone or look at your email.
2. Eavesdropping to find out confidential information.
3. Self-absorbed listening; shift the focus back to yourself.
4. Removing the filters such as prejudice and cultural bias.

Select the correct answer using the code given below:

Options :

6406531287181. ✖ 1, 2 and 3 only

6406531287182. ✔ 1 and 4 only

6406531287183. ✖ 1, 3 and 4 only

6406531287184. ✖ 1, 2, 3 and 4

Question Number : 35 Question Id : 640653387085 Question Type : MCQ Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Correct Marks : 1

Question Label : Multiple Choice Question

Which of the following statements best describes Kaizen?

Options :

6406531287185. ✖ It is a set of techniques and tools for process improvement.

6406531287186. ✖ It is a production method aimed primarily at reducing times within the production system as well as response times from suppliers and customers.

6406531287187. ✖ It refers to the set of cognitive, strategic and practical procedures used by designers in the process of designing.

6406531287188. ✔ It is a concept referring to business activities that continuously improve all functions and involve all employees from the CEO to the assembly line workers.

Question Number : 36 Question Id : 640653387086 Question Type : MCQ Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Correct Marks : 1

Question Label : Multiple Choice Question

Which of the following is not a Belbin Team Role?

Options :

6406531287189. ✖ Thinking roles

6406531287190. ✖ Action roles

6406531287191. ✔ Leadership roles

6406531287192. ✖ People roles

Question Number : 37 Question Id : 640653387087 Question Type : MCQ Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Correct Marks : 1

Question Label : Multiple Choice Question

Sensitivity to issues related to the meaning of life, death, and other aspects of human conditions refers to

Options :

6406531287193. ✖ Naturalistic intelligence

6406531287194. ✔ Existential intelligence

6406531287195. ✖ Bodily-kinesthetic intelligence

6406531287196. ✖ Interpersonal intelligence

Question Number : 38 Question Id : 640653387088 Question Type : MCQ Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Correct Marks : 1

Question Label : Multiple Choice Question

Murat and Hayat were key members of a project team headed by Tuval. Murat was technically competent and understood the project requirements very well, but lacked
self-confidence. Hayat, on the other hand, was very confident but lacked technical experience and expertise. As Tuval was required to take over another project immediately, Murat was selected as project leader, but Tuval continued to devote 20% of her time to this project. After 6 to 7 weeks of taking charge, Murat begins to feel that he requires some help with his leadership style as the project is getting behind schedule. Tuval decides to coach him using a collaborative style. Which of the following is the most appropriate approach?

Options :

6406531287197. ✖ On the basis of her observations, Tuval diagnoses Murat's problem of lack of assertiveness. She points out this problem and gives him some tips on how to enhance his assertiveness.

6406531287198. ✔ Tuval sits together with Murat to generate alternative solutions and encourages Murat to consider the consequences of each of those alternatives.

6406531287199. ✖ Tuval points out that Murat is ultimately responsible for ensuring project performance and outcomes, and so should come up with solutions rather than problems. She does
this with the intention of putting pressure on Murat to get over his timidity.

6406531287200. ✖ Tuval shares the personal experience she had faced and solved such problems even when she was much younger and less experienced.

Question Number : 39 Question Id : 640653387089 Question Type : MCQ Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Correct Marks : 1

Question Label : Multiple Choice Question

Shaifali, the manager of a bookstore, prefers to directly point out others' mistakes. Some employees see her communication style as aggressive. Which of the following can cause such a conflict?

Options :

6406531287201. ✖ Concern over job security

6406531287202. ✖ Lack of trust

6406531287203. ✔ Differences in work styles

6406531287204. ✖ Diversity in the workplace

Question Number : 40 Question Id : 640653387090 Question Type : MCQ Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Correct Marks : 1

Question Label : Multiple Choice Question

Trivikram and Abhinandan were in a conflict. Trivikram claimed he would give up part of his interests if Abhinandan gave up part of his. This is an example of what type of conflict management style?

Options :

6406531287205. ✖ Avoidance

6406531287206. ✔ Compromising

6406531287207. ✖ Collaborative

6406531287208. ✖ Competitive

Question Number : 41 Question Id : 640653387091 Question Type : MCQ Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Correct Marks : 1

Question Label : Multiple Choice Question

Asking "Could you give me an example of what you mean?" is an example of which of the

following active listening skills?

Options :

6406531287209. ✔ Asking clarifying questions

6406531287210. ✖ Asking people to share their perceptions

6406531287211. ✖ Controlling emotions

6406531287212. ✖ Capturing non-verbal cues

Question Number : 42 Question Id : 640653387092 Question Type : MCQ Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Correct Marks : 1

Question Label : Multiple Choice Question

Emotional intelligence is characterised by

Options :

6406531287213. ✖ Proficient in problem-solving

6406531287214. ✔ Better interpersonal relationship

6406531287215. ✖ High abstract thinking ability

6406531287216. ✖ Good sense of humour

Question Number : 43 Question Id : 640653387093 Question Type : MCQ Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Correct Marks : 1

Question Label : Multiple Choice Question

Nurit has worked very hard on developing an innovative new approach for carrying out a key project. This needs to be approved at a higher management level in the organization, but senior managers have so far given the idea no more than cursory attention. They have reluctantly agreed to Nurit's request for a meeting to discuss this matter. But Nurit has just found out that other agenda items have been subsequently included in that meeting, and so she is likely to get just 10 minutes to present her approach. She feels quite sure that senior managers don't feel inclined to change the existing

methods, and are merely going through a ritual by making a short time allocation. She approaches you in an emotional and demoralized state. You have been her supervisor before. Though you work in a different part of the organization, she comes to you to be coached once in a while. What will you tell her?

Options :

6406531287217. ✖ You draw her out so that she can articulate her innovative idea in a clearer manner. Your purpose will be to ensure that she does not sound vague in her meeting and does not get misunderstood.

6406531287218. ✖ You agree with her that senior managers are indeed oriented to the status quo and that while she can make efforts, she should not expect results to necessarily flow from those efforts.

6406531287219. ✔ You help her see that she should perceive her role as that of an ace salesperson selling an idea to senior managers. You brainstorm with her some effective steps such as to do that so that she approaches the meeting in a calm, confident, optimistic and determined state.

6406531287220. ✖ You point out that she may have already lost half the battle by getting demoralized. You point out to her that limiting beliefs and assumptions would be the wrong way of looking at the problem or challenge.

Question Number : 44 Question Id : 640653387094 Question Type : MCQ Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Correct Marks : 1

Question Label : Multiple Choice Question

Which of the following behavioural patterns would not be a good idea for building good interpersonal relationships at the workplace?

Options :

6406531287221. ✖ When others have different views, ask questions about their data sources.

6406531287222. ✔ Make persistent and unyielding arguments.

6406531287223. ✖ Encourage others to explore any gaps in your reasoning.

6406531287224. ✖ Make your own reasoning explicit.

Question Number : 45 Question Id : 640653387097 Question Type : MCQ Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Correct Marks : 1

Question Label : Multiple Choice Question

Being aware of and learning to manage one's own emotional triggers is a way of practising

Options :

6406531287233. ✖ Self-awareness

6406531287234. ✖ Self-esteem

6406531287235. ✔ Self-regulation

6406531287236. ✖ Motivation

Question Number : 46 Question Id : 640653387098 Question Type : MCQ Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Correct Marks : 1

Question Label : Multiple Choice Question

The elements that are outside your control and that may concern or affect or interest you indirectly, such as war, pandemic, and economy; fall under

Options :

6406531287237. ✖ Sphere of influence

6406531287238. ✖ Sphere of control

6406531287239. ✖ Sphere of unknown

6406531287240. ✔ Sphere of concern

Question Number : 47 Question Id : 640653387099 Question Type : MCQ Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Correct Marks : 1

Question Label : Multiple Choice Question

Consider the following statements regarding Emotional Intelligence:

1. Its presence increases the possibility of success in professional life only.

2. It has no relation to morality.

3. Its aim is to ensure increased influence on individuals or groups.

4. It concentrates on emotional aspects like intuition, conscience, perception,intention etc.

Which of the above statements is/are not correct?

Options :

6406531287241. ✖ 1, 2 and 3 only

6406531287242. ✔ 1 and 2 only

6406531287243. ✖ 3 and 4 only

6406531287244. ✖ 1, 2 and 4 only

Sub-Section Number :	4
Sub-Section Id :	64065355454
Question Shuffling Allowed :	Yes

Question Number : 48 Question Id : 640653387071 Question Type : MSQ Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Correct Marks : 1

Question Label : Multiple Select Question

Which of the following can be classified as 'information overload' type barriers to communication?

Options :

6406531287129. ✔ The information received by a colleague at the workplace is very new.

6406531287130. ✔ The information sent to an employee is related to concepts that are not familiar to the employee.

6406531287131. ✖ If the information sender's positive characteristics affect the receiver's acceptance of a message.

6406531287132. ✖ If there is a strong likelihood that the intended receiver will misinterpret due to their emotional state.

Question Number : 49 Question Id : 640653387073 Question Type : MSQ Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Correct Marks : 1

Question Label : Multiple Select Question

Studies show that family physicians that listen well produce better outcomes. Listening improves diagnoses, helps doctors see the context of psychological and social issues affecting patient health, and may even help avoid a lawsuit. What advice would you give about listening?

Options :

6406531287137. ✔ Paraphrase what the speaker is saying.

6406531287138. ✖ Ignore body language because it confuses the verbal message.

6406531287139. ✖ Prepare a response before the speaker has finished his remarks to appear engaged.

6406531287140. ✔ Ask follow-up questions to confirm your understanding.

Question Number : 50 Question Id : 640653387079 Question Type : MSQ Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Correct Marks : 1

Question Label : Multiple Select Question

Which of the following statement(s) is/are correct about virtual teams?

Options :

6406531287161. ✔ The digital tools that help remote teams stay connected can lack the personalization of face-to-face interaction.

6406531287162. ✔ The phenomenon of ‘social facilitation’ is absent in virtual teams.

6406531287163. ✔ Spontaneous, informal communication—chatting over coffee or in a hallway—is absent and hence lacks team cohesion.

6406531287164. ✔ Nonverbal cues are missed when staffs work remotely.

Question Number : 51 Question Id : 640653387095 Question Type : MSQ Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction

Time : 0

Correct Marks : 1

Question Label : Multiple Select Question

The ‘spirit of the squirrel’ shows meanings of:

Options :

6406531287225. ✔ Being motivated internally

6406531287226. ✔ Staying motivated to reach goals/ objectives

6406531287227. ✔ Collecting seeds for food supply because the lack of food supply can cause the death of the community during winter

6406531287228. ✔ Collecting seeds itself is of importance and worthy to be done!

Question Number : 52 Question Id : 640653387096 Question Type : MSQ Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Correct Marks : 1

Question Label : Multiple Select Question

The Gung Ho! approach focuses on:

Options :

6406531287229. ✔ Sharing of information

6406531287230. ✔ Aligning purpose, values, and goals of people and organisation

6406531287231. ✖ Multi-level decision making

6406531287232. ✔ Celebration of successes

Question Number : 53 Question Id : 640653387100 Question Type : MSQ Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Correct Marks : 1

Question Label : Multiple Select Question

Communication misunderstandings can happen due to:

Options :

6406531287245. ✔ Missing the details in the statement while communicating

6406531287246. ✔ Listening to or reading and understanding the statement incompletely

6406531287247. ✔ Verbiage

6406531287248. ✖ None of these

Sw Testing

Section Id :	64065323922
Section Number :	4
Section type :	Online
Mandatory or Optional :	Mandatory
Number of Questions :	16
Number of Questions to be attempted :	16
Section Marks :	100
Display Number Panel :	Yes
Group All Questions :	No
Enable Mark as Answered Mark for Review and Clear Response :	Yes
Maximum Instruction Time :	0
Sub-Section Number :	1
Sub-Section Id :	64065355455
Question Shuffling Allowed :	No

Question Number : 54 Question Id : 640653387101 Question Type : MCQ Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Correct Marks : 0

Question Label : Multiple Choice Question

THIS IS QUESTION PAPER FOR THE SUBJECT "DEGREE LEVEL: SOFTWARE TESTING"

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 :

6406531287249. ✔ Yes

6406531287250. ✖ No

Sub-Section Number : 2

Sub-Section Id : 64065355456

Question Shuffling Allowed : Yes

Question Number : 55 Question Id : 640653387116 Question Type : MCQ Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Correct Marks : 3

Question Label : Multiple Choice Question

Which of the following represents the order in which artifacts are written in test driven development?

Options :

6406531287299. ✖ Code followed by test cases.

6406531287300. ✔ Test cases followed by code.

Question Number : 56 Question Id : 640653387122 Question Type : MCQ Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Correct Marks : 3

Question Label : Multiple Choice Question

Which of the following is true about def-clear paths with respect to a variable v?

Options :

6406531287317. ✖ The variable v is not defined along the path.

6406531287318. ✔ The variable v is not given another value along the path

6406531287319. ✖ The variable v is defined once but is not used along the path.

6406531287320. ✖ The variable v is defined and used along the path.

Sub-Section Number : 3

Sub-Section Id : 64065355457

Question Shuffling Allowed : Yes

Question Number : 57 Question Id : 640653387115 Question Type : MCQ Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Correct Marks : 4

Question Label : Multiple Choice Question

A test case is said to have passed when which of the following holds?

Options :

6406531287295. ✖ The actual output is different from expected output but there is no error.

6406531287296. ✔ The actual output is the same as the expected output.

6406531287297. ✖ The software produces an output successfully upon giving an input

6406531287298. ✖ There is a message that there is no error from the program.

Sub-Section Number : 4

Sub-Section Id : 64065355458

Question Shuffling Allowed : Yes

Question Number : 58 Question Id : 640653387112 Question Type : MCQ Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Correct Marks : 5

Question Label : Multiple Choice Question

Which of the following represents the correct order of subsumption amongst data-flow coverage criteria in graphs? Read the symbol → below as “subsumes”.

Options :

6406531287283. ✖ All-defs-coverage → all-du-paths-coverage → all-uses-coverage.

6406531287284. ✖ All-defs-coverage → all-uses-coverage → all-du-paths-coverage.

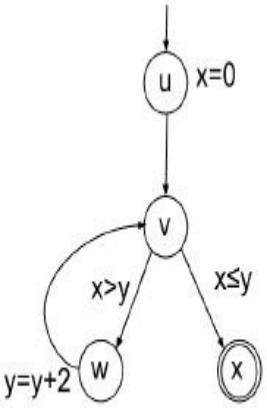
6406531287285. ✔ All-du-paths-coverage → all-uses-coverage → all-defs-coverage.

6406531287286. ✖ All-du-paths-coverage → all-defs-coverage → all-uses-coverage

Question Number : 59 Question Id : 640653387117 Question Type : MCQ Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Correct Marks : 5

Question Label : Multiple Choice Question



The control flow graph given above represents which of the following codes? In the graph above `u` is the initial node and `x` is the final node.

Options :

6406531287301. ✖

```
1  x=0;
2  if(x<=y)
3  {
4    y=y+2
5  }
```

6406531287302. ✖

```
1  if (x=0)
2  {
3    while(x<=y)
4    {
5      y=y+2;
6    }
7  }
```

6406531287303. ✔

```
x=0;
while(x>y)
{
  y=y+2;
}
```

6406531287304. ✖

```
if (x=0)
{
  while(x>y)
  {
    y=y+2
  }
}
```

Sub-Section Number : 5

Sub-Section Id : 64065355459

Question Shuffling Allowed : Yes

Question Number : 60 Question Id : 640653387102 Question Type : MCQ Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Correct Marks : 6

Question Label : Multiple Choice Question

Consider following classes for the code base to be tested, and a test class.

```
//code base
public class DataList {
  private int[] data;
  public DataList(int[] dt) {
    data = dt;
  }
  public int getMax() {
    int max = 0;
    for(int i = 0; i < data.length; i++) {
      if(max < data[i]) {
        max = data[i];
      }
    }
    return max;
  }
}


//test class
import static org.junit.Assert.*;
import org.junit.Test;

public class TestDataList {
  @Test
  public void testCase1() {
    int[] d = {4, 3, -5};
    DataList dl = new DataList(d);
    assertEquals(4, dl.getMax());
  }
  @Test
  public void testCase2() {
    int[] d = {3, 5, 0};
    DataList dl = new DataList(d);
    assertEquals(5, dl.getMax());
  }
  @Test
  public void testCase3() {
    int[] d = {-5, 0, -2};
    DataList dl = new DataList(d);
    assertEquals(0, dl.getMax());
  }
  @Test
  public void testCase4() {
    int[] d = {-1, -4, -6};
    DataList dl = new DataList(d);
    assertEquals(-1, dl.getMax());
  }
}

```

Identify the appropriate test case method that successfully uncover the error in the code base.

Options :

6406531287251. ✖

```
testCase1()
```

6406531287252. ✖

```
testCase2()
```

6406531287253. ✖

```
1 testCase3()
```

6406531287254. ✔

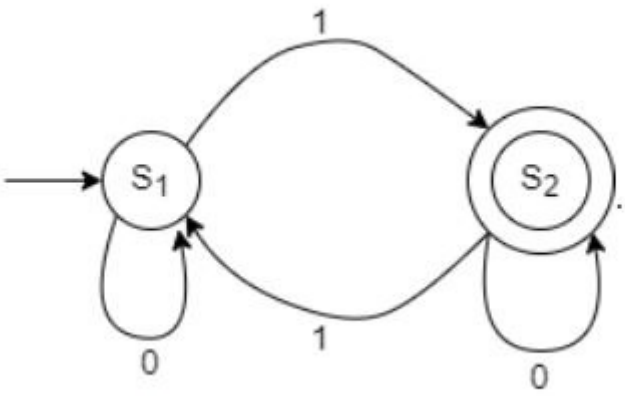
```
1 testCase4()
```

Question Number : 61 Question Id : 640653387103 Question Type : MCQ Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Correct Marks : 6

Question Label : Multiple Choice Question

Consider the FSM given below.



Which of the following is true about the above FSM.

Options :

6406531287255. ✖ It accepts all the binary strings having an odd number of 0s.

6406531287256. ✔ It accepts all the binary strings having an odd number of 1s.

6406531287257. ✖ It accepts all the binary strings having an odd number of 0s and an odd number of 1s.

6406531287258. ✖ It accepts all the binary strings having an even number of 0s and an even number of 1s.

Sub-Section Number :	6
Sub-Section Id :	64065355460
Question Shuffling Allowed :	Yes

Question Number : 62 Question Id : 640653387104 Question Type : MCQ Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Correct Marks : 8

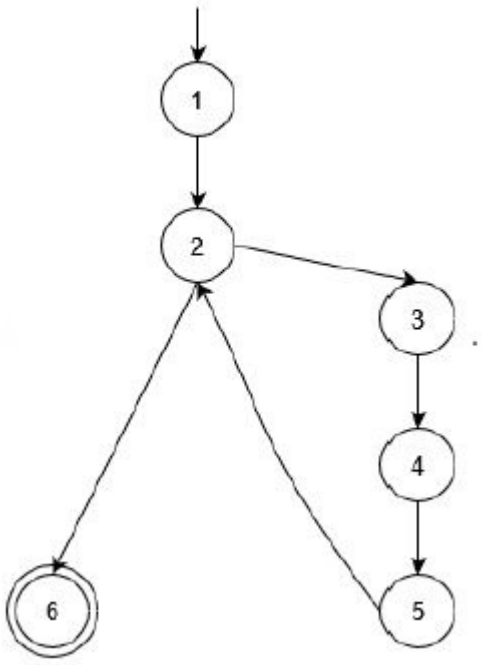
Question Label : Multiple Choice Question

Consider the Java code given below.

```
1  class InsertionSort {
2    void sort(int[] iArr){
3      int n = iArr.length;
4      for (int i = 1; i < n; ++i) {
5        int key = iArr[i];
6        int j = i - 1;
7        while (j >= 0 && key < iArr[j]) {
8          iArr[j + 1] = iArr[j];
9          j = j - 1;
10       }
11       iArr[j + 1] = key;
12     }
13   }
14 }
```

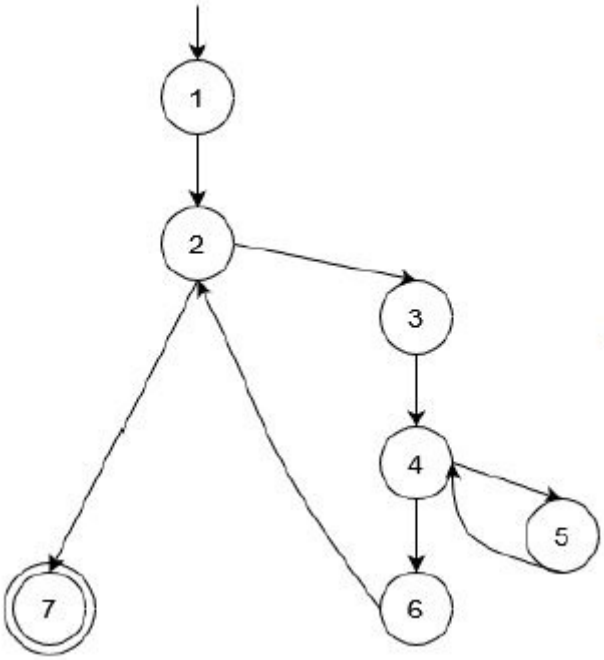
Identify the correct CFG for the method `sort()`.

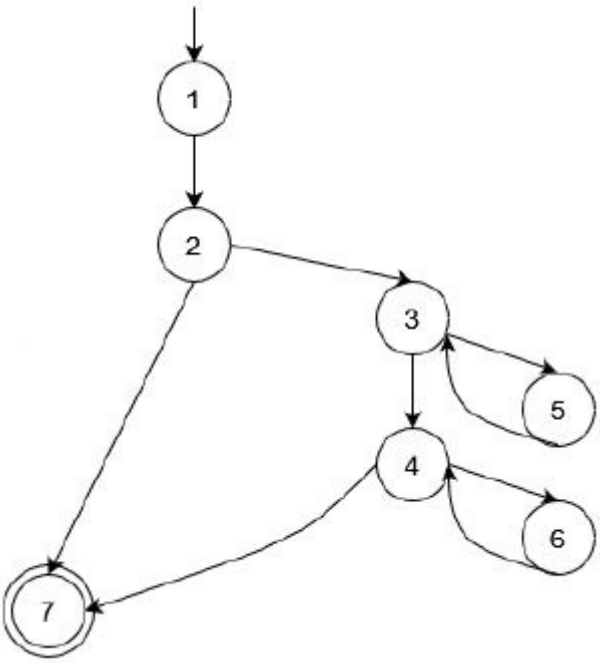
Options :



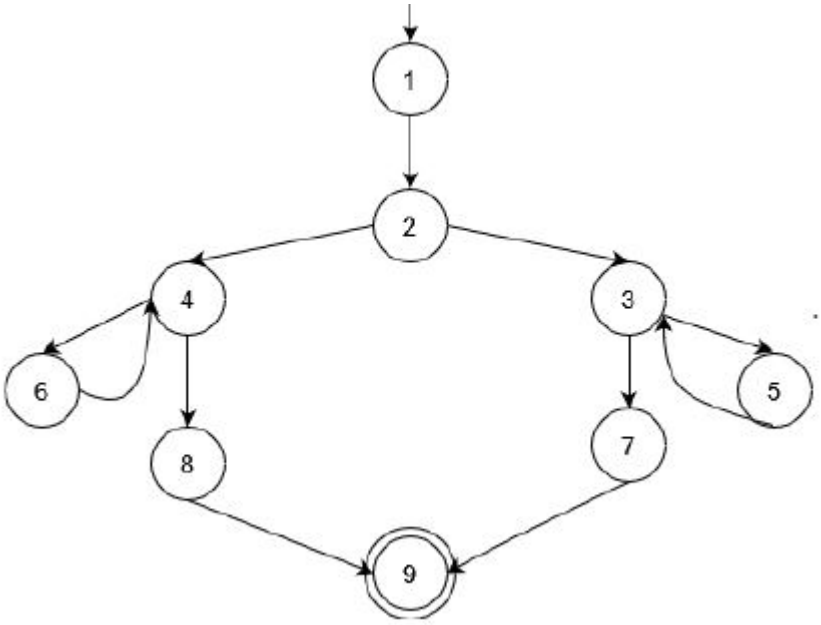
6406531287259. ✖

6406531287260. ✔





6406531287261.



6406531287262.

Sub-Section Number : 7

Sub-Section Id : 64065355461

Question Shuffling Allowed : Yes

Question Number : 63 Question Id : 640653387114 Question Type : MSQ Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Correct Marks : 5

Question Label : Multiple Select Question

For a tester to observe an error or a fault in a particular location of a program, which of the following should be true together?

Options :

6406531287291. ✔ The location of the program should be reachable by the test case given by the tester.

6406531287292. ✔ The state of the program must be incorrect at that location of the program.

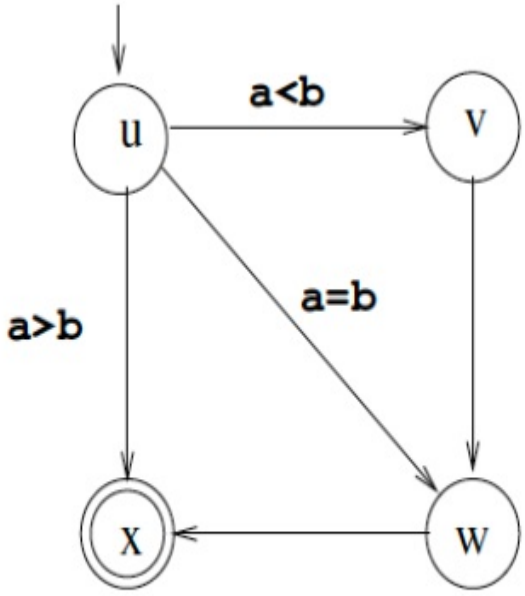
6406531287293. ✔ The final state of the program should be incorrect.

6406531287294. ✖ The tester should see the error in the program.

Question Number : 64 Question Id : 640653387118 Question Type : MSQ Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Correct Marks : 5

Question Label : Multiple Select Question



Which of the following test case inputs will result in a test path that visits the edge `(v,w)`?

Options :

6406531287305. ✔ a=5, b=7

6406531287306. ✖ a=5, b=5

6406531287307. ✖ a=8, b=7

6406531287308. ✔ a=0, b=1

Sub-Section Number :	8
Sub-Section Id :	64065355462
Question Shuffling Allowed :	Yes

Question Number : 65 Question Id : 640653387113 Question Type : MSQ Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Correct Marks : 6

Question Label : Multiple Select Question

Consider that a coverage criteria C_1 subsumes coverage criteria C_2. Also that there exists a test set T_1 that satisfies C_1 on some code base B and another test set T_2 that satisfies C_2 on the same code base B.

Select the statements that are correct for the above scenario.

Options :

6406531287287. ✖ T_1 will necessarily satisfy C_2.

6406531287288. ✔ T_2 wil necessarily satisfy C_1

6406531287289. ✖ If T_2 exposes some fault in B implies that T_1 will also be able to expose the same fault.

6406531287290. ✖ None of these

Sub-Section Number : 9

Sub-Section Id : 64065355463

Question Shuffling Allowed : Yes

Question Number : 66 Question Id : 640653387123 Question Type : SA Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Correct Marks : 4

Question Label : Short Answer Question

Single vertices of out-degree ≥ x are DD-paths.
In the above statement what will be the numerical value of x? Do not write the number in words, if your answer is 6, enter 6 but **not** *six*.

Response Type : Numeric

Evaluation Required For SA : Yes

Show Word Count : Yes

Answers Type : Equal

Text Areas : PlainText

Possible Answers :

2

Sub-Section Number : 10

Sub-Section Id : 64065355464

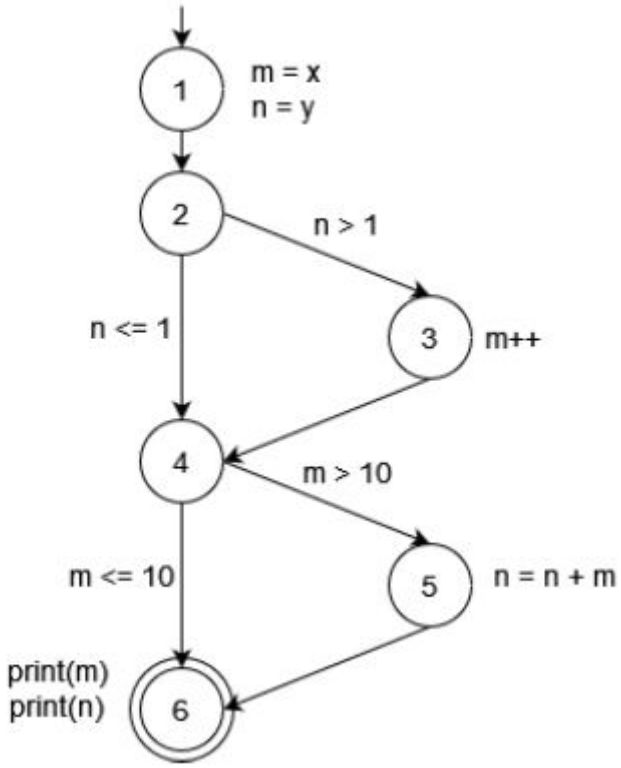
Question Shuffling Allowed : No

Question Id : 640653387109 Question Type : COMPREHENSION Sub Question Shuffling Allowed : No Group Comprehension Questions : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Question Numbers : (67 to 68)

Question Label : Comprehension

Consider the annotated CFG (for dataflow coverage) given below and answer the given subquestions.



Sub questions

Question Number : 67 Question Id : 640653387110 Question Type : MCQ Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Correct Marks : 6

Question Label : Multiple Choice Question

How many *du-pairs* are there for the variable *m*?

Options :

6406531287275. ✖ 8

6406531287276. ✖ 9

6406531287277. ✔ 10

6406531287278. ✖ 11

Question Number : 68 Question Id : 640653387111 Question Type : MCQ Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction

Time : 0

Correct Marks : 6

Question Label : Multiple Choice Question

How many unique *du-paths* are there for the variable *m*?

Options :

6406531287279. ✔ 7

6406531287280. ✖ 8

6406531287281. ✖ 9

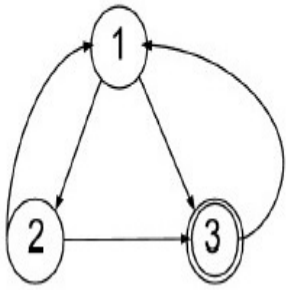
6406531287282. ✖ 10

Question Id : 640653387119 Question Type : COMPREHENSION Sub Question Shuffling Allowed : No Group Comprehension Questions : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Question Numbers : (69 to 70)

Question Label : Comprehension

Answer the given subquestions based on the given graph. In this node `1` is the initial node and node `3` is the final node.



Sub questions

Question Number : 69 Question Id : 640653387120 Question Type : MSQ Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Correct Marks : 6

Question Label : Multiple Select Question

Which of the following paths are test paths?

Options :

6406531287309. ✖ $[1, 2, 3, 1]$

6406531287310. ✔ $[1, 2, 3, 1, 2, 1, 3]$

6406531287311. ✔ $[1, 3, 1, 2, 3]$

6406531287312. ✖ $[1, 2, 3, 2, 3]$

Question Number : 70 Question Id : 640653387121 Question Type : MCQ Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Correct Marks : 6

Question Label : Multiple Choice Question

Consider the prime path $[3, 1, 3]$ and a path $P = [1, 2, 3, 1, 2, 1, 3]$. Which of the following statements for path P are true?

Options :

6406531287313. ✖ P directly tours the prime path.

6406531287314. ✔ P tours the prime path with the sidetrip $[1, 2, 1]$.

6406531287315. ✖ P tours the prime path with the sidetrip $[2, 1, 2]$.

6406531287316. ✖ P does not tours the prime path in any case.

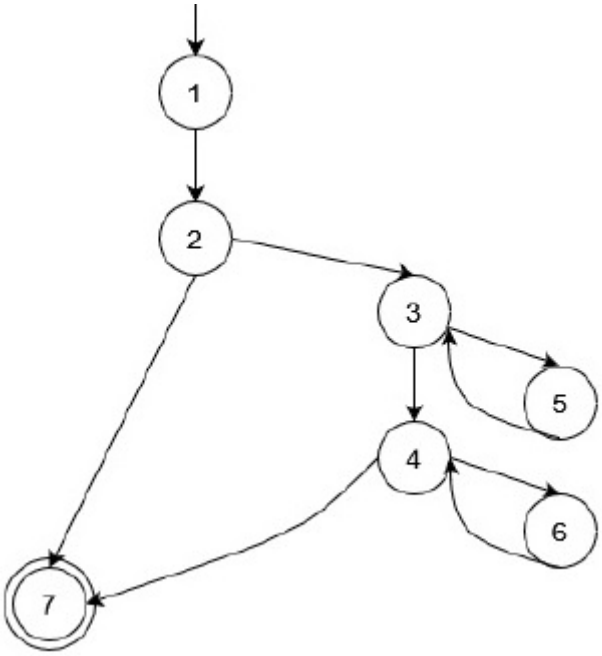
Sub-Section Number :	11
Sub-Section Id :	64065355465
Question Shuffling Allowed :	No

Question Id : 640653387105 Question Type : COMPREHENSION Sub Question Shuffling Allowed : No Group Comprehension Questions : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Question Numbers : (71 to 73)

Question Label : Comprehension

Consider the CFG given below and answer the given subquestions.



Sub questions

Question Number : 71 Question Id : 640653387106 Question Type : MCQ Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Correct Marks : 5

Question Label : Multiple Choice Question

How many test requirements are there for *edge-pair coverage*?

Options :

6406531287263. ✖ 10

6406531287264. ✖ 11

6406531287265. ✔ 12

6406531287266. ✖ 13

Question Number : 72 Question Id : 640653387107 Question Type : MCQ Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Correct Marks : 6

Question Label : Multiple Choice Question

How many simple paths are present in the given CFG?

Options :

6406531287267. ✖ 27

6406531287268. ✖ 29

6406531287269. ✖ 31

6406531287270. ✔ 36

Question Number : 73 Question Id : 640653387108 Question Type : MCQ Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Correct Marks : 5

Question Label : Multiple Choice Question

How many test requirements are there for *prime path coverage?*

Options :

6406531287271. ✖ 10

6406531287272. ✔ 11

6406531287273. ✖ 12

6406531287274. ✖ 13

Sw Engg

Section Id :	64065323923
Section Number :	5
Section type :	Online
Mandatory or Optional :	Mandatory

Number of Questions :	1
Number of Questions to be attempted :	1
Section Marks :	0
Display Number Panel :	Yes
Group All Questions :	No
Enable Mark as Answered Mark for Review and Clear Response :	Yes
Maximum Instruction Time :	0
Sub-Section Number :	1
Sub-Section Id :	64065355466
Question Shuffling Allowed :	No

Question Number : 74 Question Id : 640653387124 Question Type : MCQ Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Correct Marks : 0

Question Label : Multiple Choice Question

Note : No Quiz1 for Software Engineering

Options :

6406531287322. ✔ YES

6406531287323. ✖ NO

AI

Section Id :	64065323924
Section Number :	6
Section type :	Online
Mandatory or Optional :	Mandatory
Number of Questions :	5
Number of Questions to be attempted :	5

Section Marks :	25
Display Number Panel :	Yes
Group All Questions :	No
Enable Mark as Answered Mark for Review and Clear Response :	Yes
Maximum Instruction Time :	0
Sub-Section Number :	1
Sub-Section Id :	64065355467
Question Shuffling Allowed :	No

Question Number : 75 Question Id : 640653387125 Question Type : MCQ Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Correct Marks : 0

Question Label : Multiple Choice Question

THIS IS QUESTION PAPER FOR THE SUBJECT "DEGREE LEVEL : AI: SEARCH METHODS FOR PROBLEM SOLVING"

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 :

6406531287324. ✔ YES

6406531287325. ✖ NO

Sub-Section Number :	2
Sub-Section Id :	64065355468
Question Shuffling Allowed :	No

Question Id : 640653387126 Question Type : COMPREHENSION Sub Question Shuffling Allowed : No Group Comprehension Questions : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Question Numbers : (76 to 77)

Question Label : Comprehension

STATE SPACE

In the 8-puzzle, use the combination of tile-number (1 to 8) and the direction (Up, Down,Left, Right) of tile movement to denote a move, for example:

```
6U - move tile 6 up
2D - move tile 2 down
4L - move tile 4 left
8R - move tile 8 right
```

Based on the above data, answer the given subquestions.

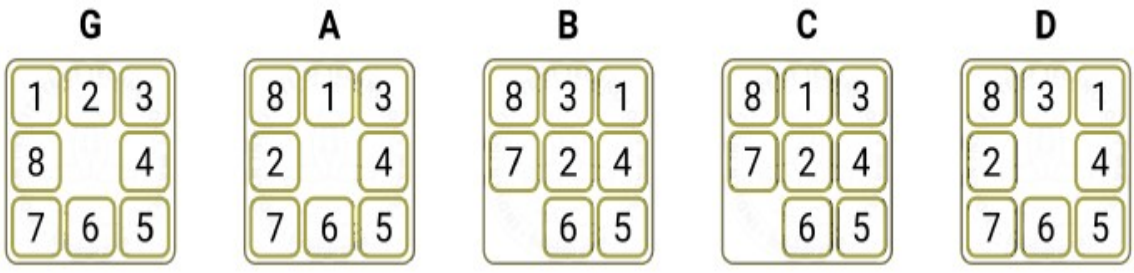
Sub questions

Question Number : 76 Question Id : 640653387127 Question Type : MCQ Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Correct Marks : 1

Question Label : Multiple Choice Question

Starting from board G, the sequence of moves 2D,1R,8U,7U will result in _____ .



Options :

6406531287326. ✖ Board G

6406531287327. ✖ Board A

6406531287328. ✖ Board B

6406531287329. ✔ Board C

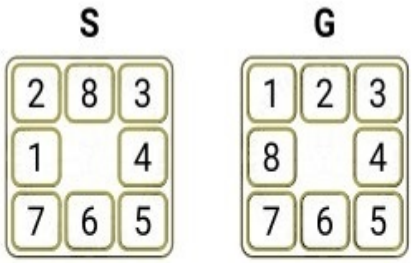
6406531287330. ✖ Board D

Question Number : 77 Question Id : 640653387128 Question Type : SA Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Correct Marks : 1

Question Label : Short Answer Question

Starting from board S, what is the shortest sequence of moves that will result in board G?



Enter a comma separated list of moves.
NO SPACES, TABS, DOTS, BRACKETS, PARENTHESIS OR UNWANTED CHARACTERS.
Answer Format: 3U,1D,4R

Response Type : Alphanumeric

Evaluation Required For SA : Yes

Show Word Count : Yes

Answers Type : Equal

Answers Case Sensitive : No

Text Areas : PlainText

Possible Answers :

8D,2R,1U,8L

Sub-Section Number :	3
Sub-Section Id :	64065355469
Question Shuffling Allowed :	No

Question Id : 640653387129 Question Type : COMPREHENSION Sub Question Shuffling Allowed : No Group Comprehension Questions : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Question Numbers : (78 to 86)

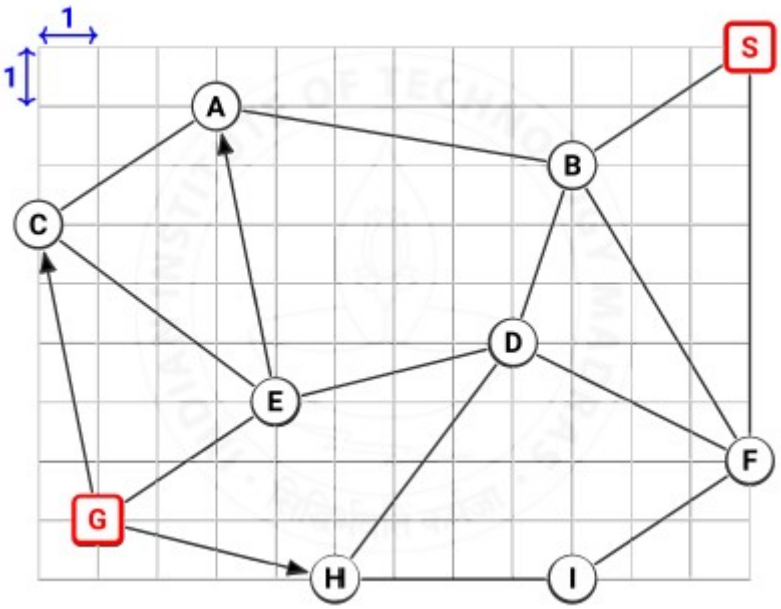
Question Label : Comprehension

SEARCH

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 either two-way edges (shown as undirected edges) or one-way edges (shown with one arrowhead).

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 : 78 Question Id : 640653387130 Question Type : SA Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

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,B,A,C

Question Number : 79 Question Id : 640653387131 Question Type : SA Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

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,Z,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,A,C,E,G

Question Number : 80 Question Id : 640653387132 Question Type : SA Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

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,B,F,A

Question Number : 81 Question Id : 640653387133 Question Type : SA Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

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,Z,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,E,G

Question Number : 82 Question Id : 640653387134 Question Type : SA Calculator : None

Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

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,F,I,H

Question Number : 83 Question Id : 640653387135 Question Type : SA Calculator : None

Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

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,Z,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,F,D,E,G

Question Number : 84 Question Id : 640653387136 Question Type : SA Calculator : None

Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

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,F,I,H

Question Number : 85 Question Id : 640653387137 Question Type : SA Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

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,Z,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 :

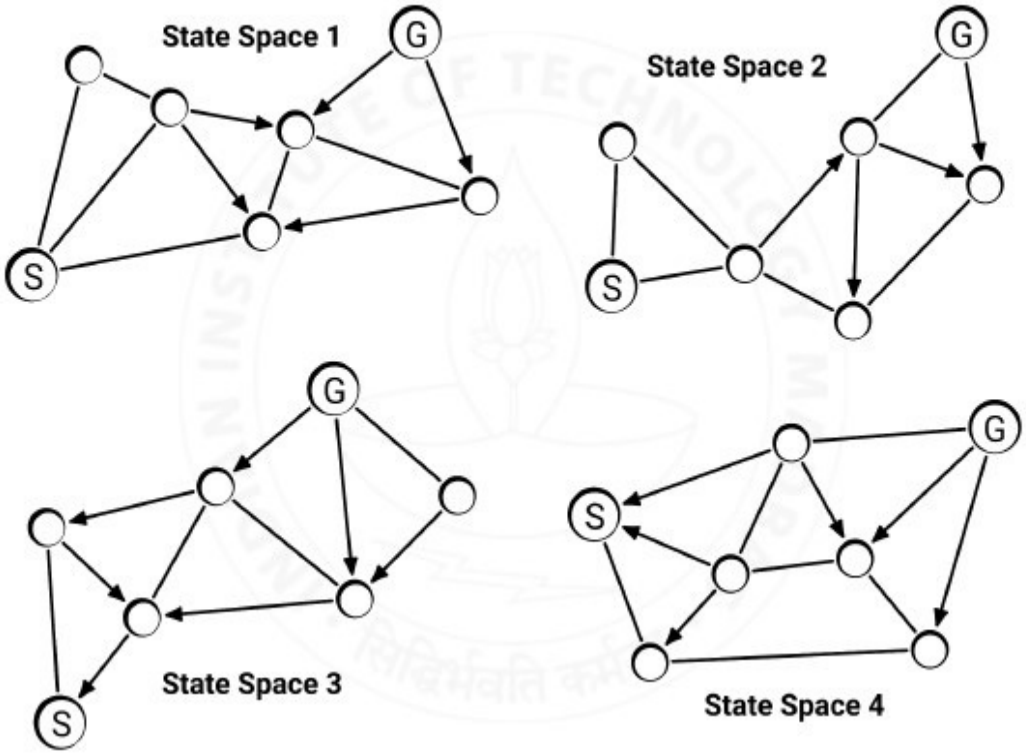
Nil

Question Number : 86 Question Id : 640653387138 Question Type : MSQ Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Correct Marks : 2

Question Label : Multiple Select Question

For which of these state spaces does Depth First Search find a path from S to G?



Options :

6406531287340. ✖ State Space 1

6406531287341. ✔ State Space 2

6406531287342. ✖ State Space 3

6406531287343. ✔ State Space 4

Sub-Section Number : 4

Sub-Section Id : 64065355470

Question Shuffling Allowed : No

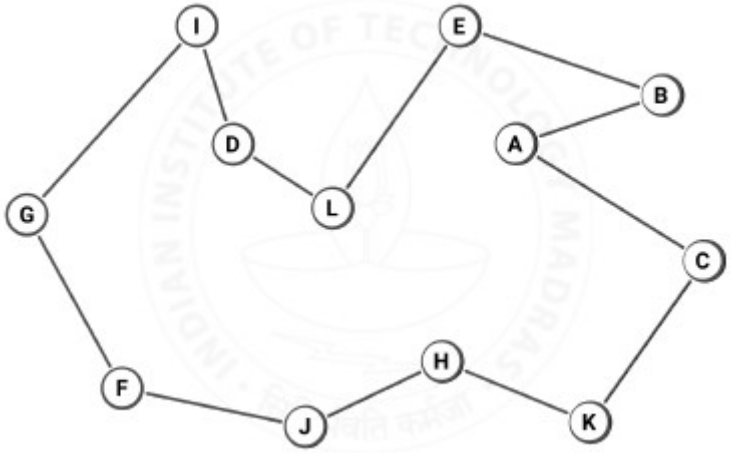
Question Id : 640653387139 Question Type : COMPREHENSION Sub Question Shuffling Allowed : No Group Comprehension Questions : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Question Numbers : (87 to 90)

Question Label : Comprehension

GENETIC ALGORITTHM

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



Based on the above data, answer the given subquestions.

Sub questions

Question Number : 87 Question Id : 640653387140 Question Type : MSQ Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Correct Marks : 1

Question Label : Multiple Select Question

Select the valid path representations of the tour.

Options :

6406531287344. ✔ I,D,L,E,B,A,C,K,H,J,F,G

6406531287345. ✔ A,B,E,L,D,I,G,F,J,H,K,C

6406531287346. ✖ A,C,K,L,G,J,F,H,I,D,E,B

6406531287347. ✖ A,C,K,F,B,H,G,I,D,L,E,J

Question Number : 88 Question Id : 640653387141 Question Type : MSQ Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Correct Marks : 1

Question Label : Multiple Select Question

Select the valid adjacency representations of the tour.

Options :

6406531287348. ✔ C,A,K,L,B,G,I,J,D,F,H,E

6406531287349. ✔ B,E,A,I,L,J,F,K,G,H,C,D

6406531287350. ✖ I,D,L,E,B,A,C,K,H,J,F,G

6406531287351. ✖ A,B,E,L,D,I,G,F,J,H,K,C

Question Number : 89 Question Id : 640653387142 Question Type : MCQ Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Correct Marks : 2

Question Label : Multiple Choice Question

Convert the path representation A,C,K,H,J,F,G,I,D,L,E,B to ordinal representation.

Options :

6406531287352. ✔ 1,2,9,6,7,4,4,4,2,3,2,1

6406531287353. ✖ 9,4,10,4,2,1,1,5,3,3,1,1

6406531287354. ✖ 1,2,9,6,4,4,4,7,2,3,2,1

6406531287355. ✖ 3,10,8,3,2,2,5,1,3,3,2,1

Question Number : 90 Question Id : 640653387143 Question Type : MSQ Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Correct Marks : 2

Question Label : Multiple Select Question

Path representations of two tours are given below. Generate offspring using Cycle Crossover.

P1: I,D,L,E,B,A,C,K,H,J,F,G

P2: A,L,I,K,J,D,E,H,C,F,G,B

Select the child tours.

Options :

6406531287356. ✔ I,D,L,K,B,A,E,H,C,J,F,G

6406531287357. ✔ A,L,I,E,J,D,C,K,H,F,G,B

6406531287358. ✖ I,K,L,D,J,E,C,A,F,B,H,G

6406531287359. ✖ C,D,I,E,B,A,J,K,H,L,G,F

Sub-Section Number : 5

Sub-Section Id : 64065355471

Question Shuffling Allowed : No

Question Id : 640653387144 Question Type : COMPREHENSION Sub Question Shuffling Allowed : No Group Comprehension Questions : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Question Numbers : (91 to 95)

Question Label : Comprehension

TSP

The distance matrix for 7 cities and the corresponding edge costs (in sorted order) are provided below. Use this information to construct TSP tours.

	A	B	C	D	E	F	G
A	-	36	52	66	30	108	115
B	36	-	40	101	50	143	151
C	52	40	-	113	79	139	158
D	66	101	113	-	60	63	51
E	30	50	79	60	-	116	110
F	108	143	139	63	116	-	46
G	115	151	158	51	110	46	-

AE	AB	BC	FG	BE	DG	AC
30	36	40	46	50	51	52

DE	DF	AD	CE	BD	AF	EG
60	63	66	79	101	108	110

CD	AG	EF	CF	BF	BG	CG
113	115	116	139	143	151	158

Based on the above data, answer the given subquestions.

Sub questions

Question Number : 91 Question Id : 640653387145 Question Type : SA Calculator : None

Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Correct Marks : 1

Question Label : Short Answer Question

Use E as the starting city, construct a tour using Nearest Neighbour Heuristic. The tour is _____ . Enter the path representation of the tour, starting from E and tracing the cities selected by the Nearest Neighbour Heuristic.

Enter a comma separated list of city names.

NO SPACES, TABS, DOTS, BRACKETS, PARENTHESIS OR UNWANTED CHARACTERS.

Answer format: E,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 :

E,A,B,C,D,G,F

Question Number : 92 Question Id : 640653387146 Question Type : SA Calculator : None

Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

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 :

432

Question Number : 93 Question Id : 640653387147 Question Type : SA Calculator : None

Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Correct Marks : 1

Question Label : Short Answer Question

Construct a tour using Greedy Heuristic, enter the path representation of the tour starting from city A.

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

A,B,C,F,G,D,E

A,E,D,G,F,C,B

Question Number : 94 Question Id : 640653387148 Question Type : SA Calculator : None

Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

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 :

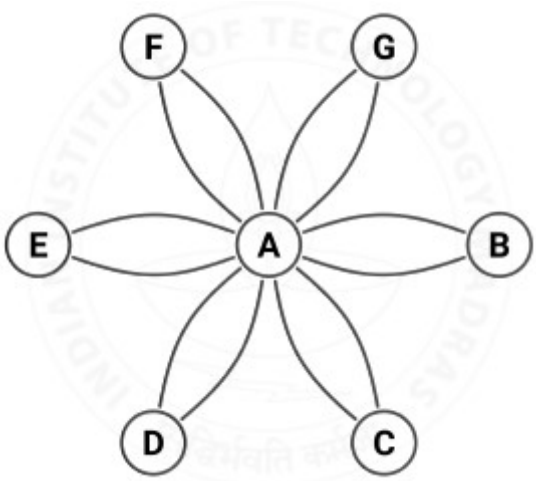
402

Question Number : 95 Question Id : 640653387149 Question Type : SA Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Correct Marks : 1

Question Label : Short Answer Question

Savings heuristic: the initial set of 6 tours with A as the fulcrum node is shown in the figure. Identify the first two edges that will be removed and the first new edge that will be added, and compute the savings. Enter the first edge added and the savings in the text box.



An edge from X to Y is named as XY.

Enter an edge name XY and a number as a comma separated list.

NO SPACES, TABS, DOTS, BRACKETS, PARENTHESIS OR UNWANTED CHARACTERS.

Answer format: XY,17

Response Type : Alphanumeric

Evaluation Required For SA : Yes

Show Word Count : Yes

Answers Type : Set

Answers Case Sensitive : No

Text Areas : PlainText

Possible Answers :

FG,117

GF,117

Deep Learning

Section Id :	64065323925
Section Number :	7
Section type :	Online
Mandatory or Optional :	Mandatory
Number of Questions :	7
Number of Questions to be attempted :	7
Section Marks :	50
Display Number Panel :	Yes
Group All Questions :	No
Enable Mark as Answered Mark for Review and Clear Response :	Yes
Maximum Instruction Time :	0
Sub-Section Number :	1
Sub-Section Id :	64065355472
Question Shuffling Allowed :	No

Question Number : 96 Question Id : 640653387150 Question Type : MCQ Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Correct Marks : 0

Question Label : Multiple Choice Question

THIS IS QUESTION PAPER FOR THE SUBJECT " DEGREE LEVEL : DEEP LEARNING "

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 :

6406531287365. ✔ YES

6406531287366. ✖ NO

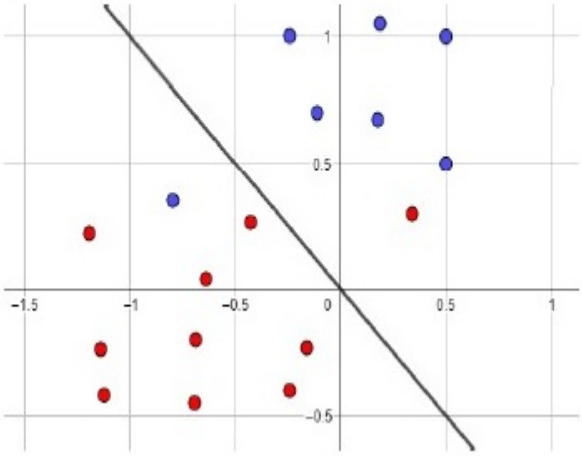
Sub-Section Number :	2
Sub-Section Id :	64065355473
Question Shuffling Allowed :	Yes

Question Number : 97 Question Id : 640653387155 Question Type : MCQ Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Correct Marks : 3

Question Label : Multiple Choice Question

In the diagram shown below, the blue data points belong to the positive class ($\mathbf{w}^T\mathbf{x} \geq 0$) and the red data points belong to the negative class ($\mathbf{w}^T\mathbf{x} < 0$). The number of data points that are misclassified according to the decision line, represented by the weight vector $\begin{bmatrix} -0.5 \\ -0.5 \end{bmatrix}$, shown in the figure is?



Options :

6406531287380. ✔ 15

6406531287381. ✖ 10

6406531287382. ✖ 2

6406531287383. ✖ Insufficient information

Question Number : 98 Question Id : 640653387168 Question Type : MCQ Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Correct Marks : 3

Question Label : Multiple Choice Question

A team has a dataset that contains 10000 samples for training a feed forward neural network. Suppose they decided to use the mini-batch gradient descent algorithm to update the weights. How many times do the weights get updated after training the network for 10 epochs with a mini-batch size of 1000?

Options :

6406531287416. ✔ 100

6406531287417. ✖ 10000

6406531287418. ✖ 1000

6406531287419. ✖ 10

Sub-Section Number : 3

Sub-Section Id : 64065355474

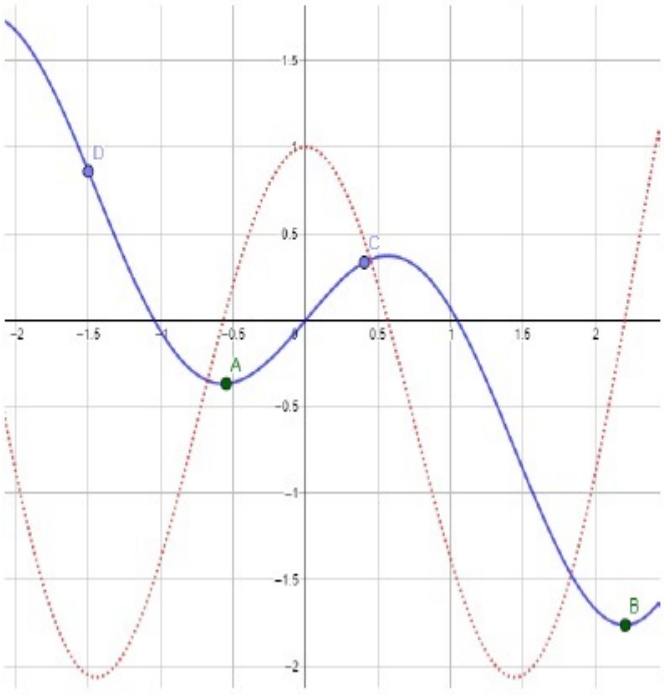
Question Shuffling Allowed : Yes

Question Number : 99 Question Id : 640653387167 Question Type : MSQ Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Correct Marks : 3

Question Label : Multiple Select Question

Consider functions $f(w)$ (Solid blue line) and its derivative $\frac{\partial f}{\partial w}$ (Dotted red line) as shown in Figure below. The function contains two minima at A and B. Suppose that gradient descent (GD) algorithm is used to update the parameter. Assume that the learning rate $\eta = 1$. Which of the following statement(s) is(are) true?



Options :

6406531287412. ✔ The updated weight,after one iteration, moves past the minimum at *A* if the weight is initialized at point *D*

6406531287413. ✖ The updated weight,after one iteration, moves past the minimum at *A* if the weight is initialized at point *C*

6406531287414. ✔ The updated weight,after one iteration, moves towards the minimum at *A* if the weight is initialized at point *C*

6406531287415. ✔ The updated weight,after one iteration, moves away from the minimum at *B* if the weight is initialized at point *C*

Sub-Section Number : 4

Sub-Section Id : 64065355475

Question Shuffling Allowed : No

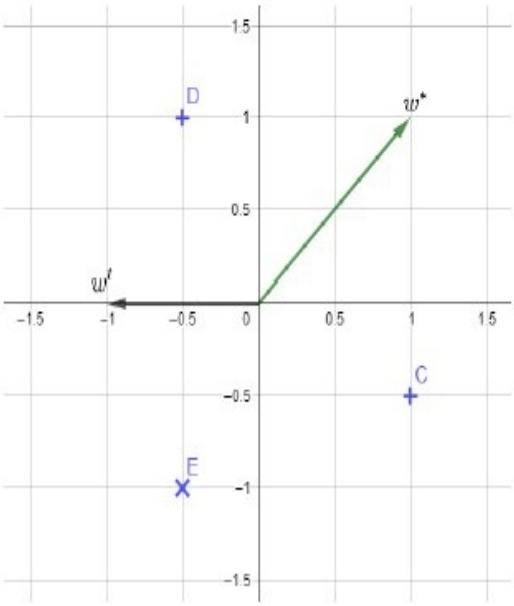
Question Id : 640653387156 Question Type : COMPREHENSION Sub Question Shuffling Allowed : No Group Comprehension Questions : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Question Numbers : (100 to 103)

Question Label : Comprehension

Consider the diagram shown below. The data points C and D belong to the positive (1) class P and the data point E belongs to the negative (0) class N. Assume that we use the perceptron model to classify the data points with the following rule

$$\hat{y} = \begin{cases} 1, & \text{if } \mathrm{w}^T x \geq 0 \\ 0, & \text{otherwise} \end{cases}$$



Based on the above data, answer the given subquestions.

Sub questions

Question Number : 100 Question Id : 640653387157 Question Type : MCQ Is Question

Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Correct Marks : 1

Question Label : Multiple Choice Question

Are the data points linearly separable?

Options :

6406531287384. ✔ Yes

6406531287385. ✖ No

Question Number : 101 Question Id : 640653387158 Question Type : MCQ Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Correct Marks : 3

Question Label : Multiple Choice Question

Suppose that we initialize the weights *w* of perceptron randomly and run the perceptron learning algorithm for *t* iterations. For each iteration, it considers one data point and updates the weights, if required. The weight after *t* iterations is shown as w^t in the figure. The algorithm now starts iterating over the data points in the following order:(D,E,C). What will be the value of w^t after one more iteration, *i.e.*, what will be the value of w^{t+1}?

Options :

6406531287386. ✔ $w^{t+1} = [-1, 0]^T$

6406531287387. ✖ $w^{t+1} = [-1.5, 1]^T$

6406531287388. ✖ $w^{t+1} = [0.5, 1]^T$

6406531287389. ✖ $w^{t+1} = [-0.5, 1]^T$

Question Number : 102 Question Id : 640653387159 Question Type : MCQ Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction

Time : 0

Correct Marks : 3

Question Label : Multiple Choice Question

What will be the value of w^t after two more iteration, *i.e.*, what will be the value of w^{t+2}?

Options :

6406531287390. ✖ $w^{t+2} = [0.5, 1]^T$

6406531287391. ✖ $w^{t+2} = [0.5, 0.5]^T$

6406531287392. ✖ $w^{t+2} = [-1, 0]^T$

6406531287393. ✔ $w^{t+2} = [-0.5, 1]^T$

Question Number : 103 Question Id : 640653387160 Question Type : MCQ Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Correct Marks : 3

Question Label : Multiple Choice Question

What is the angle between w^{t+3} and w^*?

Options :

6406531287394. ✔ 0

6406531287395. ✖ $\frac{\pi}{2}$

6406531287396. ✖ π

6406531287397. ✖ $\frac{\pi}{4}$

Sub-Section Id : 64065355476

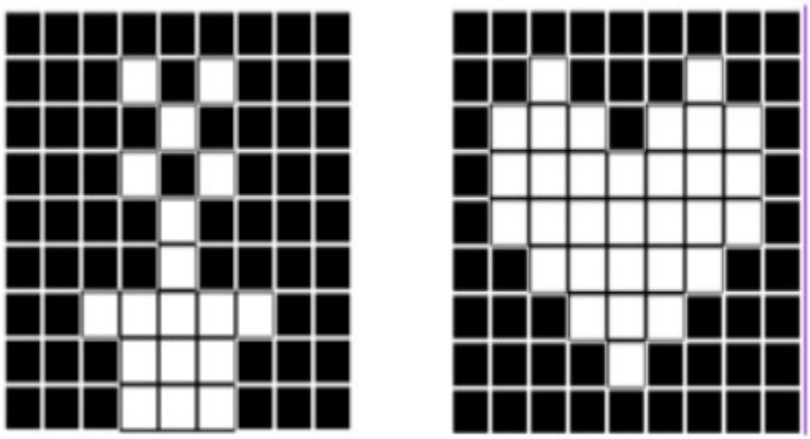
Question Shuffling Allowed : No

Question Id : 640653387151 Question Type : COMPREHENSION Sub Question Shuffling Allowed : No Group Comprehension Questions : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Question Numbers : (104 to 106)

Question Label : Comprehension

The binary images shown below are of size 9×9. Black represents 0 and white represents 1. The object is represented by (a group of) white squares



Based on the above data, answer the given subquestions.

Sub questions

Question Number : 104 Question Id : 640653387152 Question Type : MSQ Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Correct Marks : 6

Question Label : Multiple Select Question

Suppose that the inputs are generated by shifting the object in the image by maintaining the relative positions of the white squares (note that even after shifting the entire object will still remain in the image). Suppose further that we use the McCulloch- Pitts neuron to recognize the images. Recognizing here means that the neuron outputs 0 if the input image is from class 0, and it outputs 1 for the images from class 1. The image is resized as a vector by concatenating rows. Therefore, the input $x \in \mathbb{R}^{81}$. Which of the following thresholds (θ) achieves this task with zero classification error?

$$\hat{y} = \begin{cases} 1, & \text{if } \sum_{i=1}^{81} x_i > \theta \\ 0, & \text{otherwise} \end{cases}$$

where, $\hat{y}$ is the output from the MP neuron.

Options :

6406531287367. ✔ $\theta = 18$

6406531287368. ✖ $\theta = 81$

6406531287369. ✖ $\theta = 31$

6406531287370. ✔ $18 \leq \theta < 31$

6406531287371. ✖ $18 \leq \theta \leq 31$

6406531287372. ✖

Shifting the object in an image might influence the final θ value. Therefore, not possible to fix a threshold value which will lead to zero classification error.

Question Number : 105 Question Id : 640653387153 Question Type : MCQ Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Correct Marks : 6

Question Label : Multiple Choice Question

The vector form of the image is a data point $\in \mathbb{R}^{81}$. Therefore, all the inputs that are generated by shifting the object in the image, by maintaining the relative positions of the white squares, are also data points $\in \mathbb{R}^{81}$. Some of those data points will belong to class 0 and some belongs to class 1. Then, the statement that the data points are linearly separable is

Options :

6406531287373. ✔ TRUE

6406531287374. ✖ FALSE

6406531287375. ✖ Not possible to decide

Question Number : 106 Question Id : 640653387154 Question Type : MCQ Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Correct Marks : 3

Question Label : Multiple Choice Question

The two images shown are just two possible configurations of input $x \in \mathbb{R}^{81}$. Two more possible configurations are an input image of the same size, either full of black squares or full of white squares. How many such configurations are possible?

Options :

6406531287376. ✔ 2^{81}

6406531287377. ✖ $2^{2^{81}}$

6406531287378. ✖ 2

6406531287379. ✖ 2^2

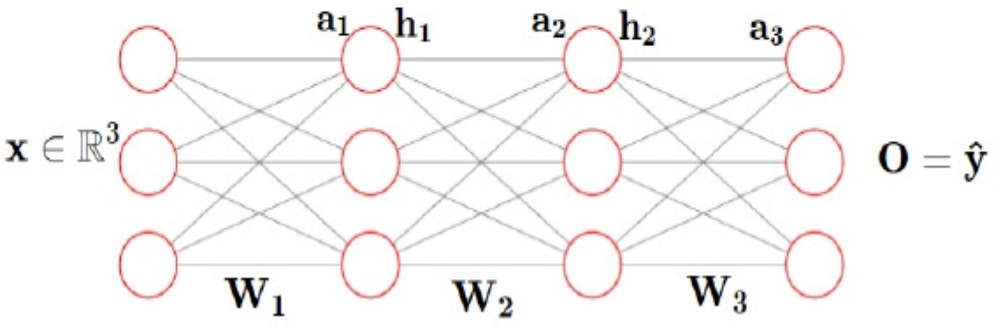
Sub-Section Number :	6
Sub-Section Id :	64065355477
Question Shuffling Allowed :	No

Question Id : 640653387161 Question Type : COMPREHENSION Sub Question Shuffling Allowed : No Group Comprehension Questions : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Question Numbers : (107 to 111)

Question Label : Comprehension

Consider a feed forward neural network shown below where, x is an input vector. The vectors a_l, h_l correspond to pre-activation and activation at layer l. The matrices $\mathbf{W_l}$ are weights that connect neurons from layer $l-1$ to layer l. Finally, the vector o is an output vector $\mathbf{o} = \mathbf{h_3} = \hat{y}$. All neurons in the hidden layer use the logistic activation function, and neurons in the output layer use softmax function. Further, the network minimizes cross entropy loss.



Based on the above data, answer the given subquestions.

Sub questions

Question Number : 107 Question Id : 640653387162 Question Type : MSQ Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Correct Marks : 3

Question Label : Multiple Select Question

Choose the vector(s) which is (are) inappropriate given the network

Options :

6406531287398. ✖ $\mathbf{h_2} = \begin{bmatrix} 0.1 \\ 0 \\ 0.25 \end{bmatrix}$

6406531287399. ✔ $\mathbf{h_1} = \begin{bmatrix} 0 \\ -0.25 \\ 0.1 \end{bmatrix}$

6406531287400. ✖ $\hat{\mathbf{y}} = \begin{bmatrix} 0.1 \\ 0.8 \\ 0.1 \end{bmatrix}$

6406531287401. ✔ $\hat{\mathbf{y}} = \begin{bmatrix} 0.3 \\ 0.8 \\ 0.1 \end{bmatrix}$

Question Number : 108 Question Id : 640653387163 Question Type : SA Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Correct Marks : 4

Question Label : Short Answer Question

Compute the vector a_3 and enter the sum of the elements of a_3. If your answer is −1.2437, then enter it as −1.24.

$$\mathbf{h_2} = \begin{bmatrix} 1 \\ 0 \\ 1 \end{bmatrix} \quad \mathbf{W_3} = \begin{bmatrix} 0.5 & 0.25 & 0.9 \\ -0.5 & 0 & 0.75 \\ 0 & 0 & 1 \end{bmatrix}, \quad \mathbf{b_3} = \begin{bmatrix} 1 \\ 0 \\ 0 \end{bmatrix}$$

Response Type : Numeric

Evaluation Required For SA : Yes

Show Word Count : Yes

Answers Type : Range

Text Areas : PlainText

Possible Answers :

3.6 to 3.7

Question Number : 109 Question Id : 640653387164 Question Type : MCQ Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Correct Marks : 3

Question Label : Multiple Choice Question

Compute $\hat{\mathbf{y}}$ (In all your calculations, take two digits after the decimal point and choose the answer that is closest to the given options)

Options :

6406531287403. ✔ $\hat{\mathbf{y}} = [0.73, 0.09, 0.18]^T$

6406531287404. ✖ $\hat{\mathbf{y}} = [0.50, 0.16, 0.34]^T$

6406531287405. ✖ $\hat{\mathbf{y}} = [0.15, 0.75, 0.1]^T$

6406531287406. ✖ $\hat{\mathbf{y}} = [0.73, 0.18, 0.09]^T$

Question Number : 110 Question Id : 640653387165 Question Type : SA Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Correct Marks : 3

Question Label : Short Answer Question

Suppose that the true one-hot encoded label is $\mathbf{y} = \begin{bmatrix} 0 \\ 1 \\ 0 \end{bmatrix}$. Compute the loss (use natural log) and write it using upto two decimal points (that is, if your answer is 40.2345, then enter it as 40.23)

Response Type : Numeric

Evaluation Required For SA : Yes

Show Word Count : Yes

Answers Type : Range

Text Areas : PlainText

Possible Answers :

2.35 to 2.45

Question Number : 111 Question Id : 640653387166 Question Type : MCQ Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction

Time : 0

Correct Marks : 3

Question Label : Multiple Choice Question

Compute the gradient of loss with respect to the output $\hat{y}$, that is, $\nabla_{\hat{y}} L$ and compute the sum of the elements of $\nabla_{\hat{y}} L$

Options :

6406531287408. ✖ 0.41

6406531287409. ✖ -0.41

6406531287410. ✔ -11.11

6406531287411. ✖ 11.11