

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 QPF1 16 Oct 2022
Subject Name :	2022 Oct: IIT M QUIZ 1 DEGREE QPF1
Creation Date :	2022-10-10 18:08:20
Duration :	120
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 :	6406539325
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 :	64065323912
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 :	64065355414
Question Shuffling Allowed :	Yes

Question Number : 1 Question Id : 640653386919 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 :

6406531286714. ✓ YES

6406531286715. ✗ NO

Industry 4.0

Section Id :	64065323913
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 :	64065355415
Question Shuffling Allowed :	No

Question Number : 2 Question Id : 640653386920 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 :

- 6406531286716. ✓ YES
- 6406531286717. ✗ NO

Sub-Section Number :	2
Sub-Section Id :	64065355416
Question Shuffling Allowed :	Yes

Question Number : 3 Question Id : 640653386921 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 :

6406531286718. ✖ Steam engine -> IT ->Assembly line ->IOT

6406531286719. ✔ Steam engine -> Assembly line ->IT ->IOT

6406531286720. ✖ Assembly line ->Steam engine -> IT ->IOT

6406531286721. ✖ Assembly line ->IT -> Steam engine ->IOT

Question Number : 4 Question Id : 640653386922 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 :

6406531286722. ✖ Japan

6406531286723. ✖ United States

6406531286724. ✔ Germany

6406531286725. ✖ United Kingdom

Question Number : 5 Question Id : 640653386923 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 :

6406531286726. ✖ IC engine

6406531286727. ✖ Electric car

6406531286728. ✔ Hyperloop

6406531286729. ✖ Steam locomotive

Question Number : 6 Question Id : 640653386930 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 :

6406531286738. ✖ Distance

6406531286739. ✖ Number of facilities

6406531286740. ✖ Optimization criteria

6406531286741. ✔ All of these

Question Number : 7 Question Id : 640653386931 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 :

6406531286742. ✖ $d_{ij} = \sqrt{(x_i - x_j)^2 + (y_i - y_j)^2}$

6406531286743. ✔ $d_{ij} = |(x_i - x_j)| + |(y_i - y_j)|$

6406531286744. ✖ $(x_2 - x_1) + (y_2 - y_1)$

6406531286745. ✖ All of these

Question Number : 8 Question Id : 640653386932 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 :

6406531286746. ✔ Euclidean distance measure will result in a single point optimal solution

6406531286747. ✖ Metropolitan metric distance will result in a range for the optimal solution

6406531286748. ✖ 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

6406531286749. ✖ 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 : 640653386933 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 :

6406531286750. ✖ Euclidean distance measure will result in a single point optimal solution

6406531286751. ✔ Metropolitan metric distance will result in a range for the optimal solution

6406531286752. ✖ 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

6406531286753. ✖ 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 :

Question Id : 640653386924 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 : 640653386925 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 : 640653386926 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 : 640653386927 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 : 640653386928 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 :

6406531286733. ✔ (A, B) → (C) → (D, E) → (F, G, H, I)

6406531286734. ✖ (A) → (C) → (B, E, F) → (D, G, H) → (I)

6406531286735. ✔ (A, B) → (C) → (D) → (E, F, G, H, I)

6406531286736. ✖ (A, B) → (C) → (D, G) → (E, F, H, I)

Question Number : 14 Question Id : 640653386929 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 :

Sub-Section Id :64065355418

Question Shuffling Allowed :No

Question Id : 640653386934 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 : 640653386935 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 :

6406531286754. ✖ 3060

6406531286755. ✖ 8538

6406531286756. ✔ 816

6406531286757. ✖ 18

Question Number : 16 Question Id : 640653386936 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 :

6406531286758. ✔ 13

6406531286759. ✖ 9

6406531286760. ✖ 21

6406531286761. ✖ 7

Question Number : 17 Question Id : 640653386937 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 :

6406531286762. ✖ 0.33

6406531286763. ✖ 0.55

6406531286764. ✔ 0.4

6406531286765. ✖ 0.3

Question Number : 18 Question Id : 640653386938 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 :

6406531286766. ✔ 12

6406531286767. ✖ 25

6406531286768. ✖ 38

6406531286769. ✖ 15

SPG

Section Id :	64065323914
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 :	64065355419
Question Shuffling Allowed :	No

Question Number : 19 Question Id : 640653386939 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 :

6406531286770. ✓ YES

6406531286771. ✗ NO

Sub-Section Number : 2

Sub-Section Id : 64065355420

Question Shuffling Allowed : No

Question Id : 640653386940 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 : 640653386941 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 : 640653386942 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 : 640653386943 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 : 640653386944 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 : 640653386945 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 : 64065355421

Question Shuffling Allowed : Yes

Question Number : 24 **Question Id :** 640653386947 **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 :

6406531286780. ✖ twisting the semantics or meaning of the words.

6406531286781. ✔ attempting to discredit the source.

6406531286782. ✖ raging about a different topic.

6406531286783. ✖ attempting to create emotional disconnects.

Question Number : 25 Question Id : 640653386949 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 :

6406531286788. ✓ I can't do this yet

6406531286789. ✗ I can't improve

6406531286790. ✗ I don't want to make a mistakes

6406531286791. ✗ I am not good at this

Question Number : 26 Question Id : 640653386950 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 :

6406531286792. ✗ When team members exhibit individual skills, like when one is numbers-oriented and another is good at written communication.

6406531286793. ✓ 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.

6406531286794. ✗ 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.

6406531286795. ✗ Individual goals, which must be assigned to keep individual players from social loading.

Question Number : 27 Question Id : 640653386951 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 :

6406531286796. ✖ The right design for the position of team members will hold.

6406531286797. ✖ A common purpose, specific goals, and team efficacy.

6406531286798. ✖ Leadership style and organizational structure.

6406531286799. ✔ Diversity of team members and inclusivity.

Question Number : 28 Question Id : 640653386952 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 :

6406531286800. ✖ A permanent change in behaviour as a result of experience.

6406531286801. ✔ A set of capabilities that allow an individual to learn.

6406531286802. ✖ The capacity of an individual to produce novel/ original answers to products

6406531286803. ✖ The ability to produce a single response to a specific question.

Question Number : 29 Question Id : 640653386953 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 :

6406531286804. ✖ 1, 2 and 3 only

6406531286805. ✔ 1 and 2 only

6406531286806. ✖ 1, 3 and 4 only

6406531286807. ✖ 1, 2 and 4 only

Question Number : 30 Question Id : 640653386955 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 :

6406531286812. ✔ Nonverbal communication

6406531286813. ✖ Inner chatter

6406531286814. ✖ Vertical communication

6406531286815. ✖ Personal communication

Question Number : 31 Question Id : 640653386956 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 :

6406531286816. ✖ Read-Appreciate-Summarize-Appreciate

6406531286817. ✔ Receive-Appreciate-Summarize-Ask

6406531286818. ✖ Receive-Acknowledge-Speak-Act

6406531286819. ✖ Read-Acknowledge-Summarize-Appreciate

Question Number : 32 Question Id : 640653386957 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 :

6406531286820. ✖ Innate intelligence is responsible for achievement, therefore study is unnecessary.

6406531286821. ✖ If they fail, they may not be as talented as people say.

6406531286822. ✖ Some people are meant to succeed and some are not.

6406531286823. ✔ All of these conclusions may damage the success of people with talent or innate mindsets

Question Number : 33 Question Id : 640653386958 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 :

6406531286824. ✖ 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.

6406531286825. ✔ Ajith returned from war and has constant thoughts of suicide. He stays indoors often and does not like to socialize with family or friends.

6406531286826. ✖ 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.

6406531286827. ✖ 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 : 640653386959 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 :

6406531286828. ✖ 1, 2 and 3 only

6406531286829. ✔ 1 and 4 only

6406531286830. ✖ 1, 3 and 4 only

6406531286831. ✖ 1, 2, 3 and 4

Question Number : 35 Question Id : 640653386960 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 :

6406531286832. ✖ It is a set of techniques and tools for process improvement.

6406531286833. ✖ It is a production method aimed primarily at reducing times within the production system as well as response times from suppliers and customers.

6406531286834. ✖ It refers to the set of cognitive, strategic and practical procedures used by designers in the process of designing.

6406531286835. ✔ 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 : 640653386961 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 :

6406531286836. ✖ Thinking roles

6406531286837. ✖ Action roles

6406531286838. ✔ Leadership roles

6406531286839. ✖ People roles

Question Number : 37 Question Id : 640653386962 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 :

6406531286840. ✖ Naturalistic intelligence

6406531286841. ✔ Existential intelligence

6406531286842. ✖ Bodily-kinesthetic intelligence

6406531286843. ✖ Interpersonal intelligence

Question Number : 38 Question Id : 640653386963 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 :

6406531286844. ✖ 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.

6406531286845. ✔ Tuval sits together with Murat to generate alternative solutions and encourages Murat to consider the consequences of each of those alternatives.

6406531286846. ✖ 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.

6406531286847. ✖ 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 : 640653386964 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 :

6406531286848. ✖ Concern over job security

6406531286849. ✖ Lack of trust

6406531286850. ✔ Differences in work styles

6406531286851. ✖ Diversity in the workplace

Question Number : 40 Question Id : 640653386965 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 :

6406531286852. ✖ Avoidance

6406531286853. ✔ Compromising

6406531286854. ✖ Collaborative

6406531286855. ✖ Competitive

Question Number : 41 Question Id : 640653386966 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 :

6406531286856. ✔ Asking clarifying questions

6406531286857. ✖ Asking people to share their perceptions

6406531286858. ✖ Controlling emotions

6406531286859. ✖ Capturing non-verbal cues

Question Number : 42 Question Id : 640653386967 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 :

6406531286860. ✖ Proficient in problem-solving

6406531286861. ✔ Better interpersonal relationship

6406531286862. ✖ High abstract thinking ability

6406531286863. ✖ Good sense of humour

Question Number : 43 Question Id : 640653386968 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 :

6406531286864. ✖ 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.

6406531286865. ✖ 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.

6406531286866. ✔ 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.

6406531286867. ✖ 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 : 640653386969 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 :

6406531286868. ✖ When others have different views, ask questions about their data sources.

6406531286869. ✔ Make persistent and unyielding arguments.

6406531286870. ✖ Encourage others to explore any gaps in your reasoning.

6406531286871. ✖ Make your own reasoning explicit.

Question Number : 45 Question Id : 640653386972 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 :

6406531286880. ✖ Self-awareness

6406531286881. ✖ Self-esteem

6406531286882. ✔ Self-regulation

6406531286883. ✖ Motivation

Question Number : 46 Question Id : 640653386973 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 :

6406531286884. ✖ Sphere of influence

6406531286885. ✖ Sphere of control

6406531286886. ✖ Sphere of unknown

6406531286887. ✔ Sphere of concern

Question Number : 47 Question Id : 640653386974 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 :

6406531286888. ✖ 1, 2 and 3 only

6406531286889. ✔ 1 and 2 only

6406531286890. ✖ 3 and 4 only

6406531286891. ✖ 1, 2 and 4 only

Sub-Section Number :	4
Sub-Section Id :	64065355422
Question Shuffling Allowed :	Yes

Question Number : 48 Question Id : 640653386946 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 :

6406531286776. ✔ The information received by a colleague at the workplace is very new.

6406531286777. ✔ The information sent to an employee is related to concepts that are not familiar to the employee.

6406531286778. ✖ If the information sender's positive characteristics affect the receiver's acceptance of a message.

6406531286779. ✖ If there is a strong likelihood that the intended receiver will misinterpret due to their emotional state.

Question Number : 49 Question Id : 640653386948 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 :

- 6406531286784. ✔ Paraphrase what the speaker is saying.
- 6406531286785. ✖ Ignore body language because it confuses the verbal message.
- 6406531286786. ✖ Prepare a response before the speaker has finished his remarks to appear engaged.
- 6406531286787. ✔ Ask follow-up questions to confirm your understanding.

Question Number : 50 Question Id : 640653386954 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 :

- 6406531286808. ✔ The digital tools that help remote teams stay connected can lack the personalization of face-to-face interaction.
- 6406531286809. ✔ The phenomenon of 'social facilitation' is absent in virtual teams.
- 6406531286810. ✔ Spontaneous, informal communication—chatting over coffee or in a hallway—is absent and hence lacks team cohesion.
- 6406531286811. ✔ Nonverbal cues are missed when staffs work remotely.

Question Number : 51 Question Id : 640653386970 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 :

6406531286872. ✓ Being motivated internally

6406531286873. ✓ Staying motivated to reach goals/ objectives

6406531286874. ✓ Collecting seeds for food supply because the lack of food supply can cause the death of the community during winter

6406531286875. ✓ Collecting seeds itself is of importance and worthy to be done!

Question Number : 52 Question Id : 640653386971 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 :

6406531286876. ✓ Sharing of information

6406531286877. ✓ Aligning purpose, values, and goals of people and organisation

6406531286878. ✗ Multi-level decision making

6406531286879. ✓ Celebration of successes

Question Number : 53 Question Id : 640653386975 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 :

6406531286892. ✔ Missing the details in the statement while communicating

6406531286893. ✔ Listening to or reading and understanding the statement incompletely

6406531286894. ✔ Verbiage

6406531286895. ✖ None of these

Sw Testing

Section Id :	64065323915
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 :	64065355423
Question Shuffling Allowed :	No

Question Number : 54 Question Id : 640653386976 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 :

6406531286896. ✓ Yes

6406531286897. ✗ No

Sub-Section Number :

2

Sub-Section Id :

64065355424

Question Shuffling Allowed :

Yes

Question Number : 55 Question Id : 640653386991 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 :

6406531286946. ✗ Code followed by test cases.

6406531286947. ✓ Test cases followed by code.

Question Number : 56 Question Id : 640653386997 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 :

6406531286964. ✗ The variable v is not defined along the path.

6406531286965. ✔ The variable v is not given another value along the path

6406531286966. ✖ The variable v is defined once but is not used along the path.

6406531286967. ✖ The variable v is defined and used along the path.

Sub-Section Number : 3
Sub-Section Id : 64065355425
Question Shuffling Allowed : Yes

Question Number : 57 Question Id : 640653386990 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 :

6406531286942. ✖ The actual output is different from expected output but there is no error.

6406531286943. ✔ The actual output is the same as the expected output.

6406531286944. ✖ The software produces an output successfully upon giving an input

6406531286945. ✖ There is a message that there is no error from the program.

Sub-Section Number : 4
Sub-Section Id : 64065355426
Question Shuffling Allowed : Yes

Question Number : 58 Question Id : 640653386987 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 :

6406531286930. ✖ All-defs-coverage → all-du-paths-coverage → all-uses-coverage.

6406531286931. ✖ All-defs-coverage → all-uses-coverage → all-du-paths-coverage.

6406531286932. ✔ All-du-paths-coverage → all-uses-coverage → all-defs-coverage.

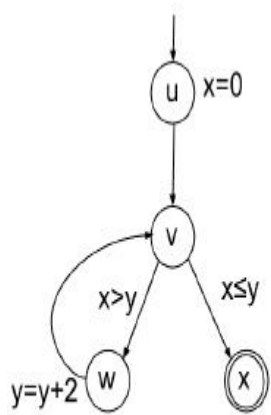
6406531286933. ✖ All-du-paths-coverage → all-defs-coverage → all-uses-coverage

Question Number : 59 Question Id : 640653386992 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 :

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

6406531286948. ✖

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

6406531286949. ✖

6406531286950. ✓

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

6406531286951. ✖

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

Sub-Section Number :

5

Sub-Section Id :

64065355427

Question Shuffling Allowed :

Yes

Question Number : 60 Question Id : 640653386977 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.

```
1  //code base
2  public class DataList {
3      private int[] data;
4      public DataList(int[] dt) {
5          data = dt;
6      }
7      public int getMax() {
8          int max = 0;
9          for(int i = 0; i < data.length; i++) {
10             if(max < data[i]) {
11                 max = data[i];
12             }
13         }
14         return max;
15     }
16 }
17
18
19 //test class
20 import static org.junit.Assert.*;
21 import org.junit.Test;
22
23 public class TestDataList {
24     @Test
25     public void testCase1() {
26         int[] d = {4, 3, -5};
27         DataList dl = new DataList(d);
28         assertEquals(4, dl.getMax());
29     }
30     @Test
31     public void testCase2() {
32         int[] d = {3, 5, 0};
33         DataList dl = new DataList(d);
34         assertEquals(5, dl.getMax());
35     }
36     @Test
37     public void testCase3() {
38         int[] d = {-5, 0, -2};
39         DataList dl = new DataList(d);
40         assertEquals(0, dl.getMax());
41     }
42     @Test
43     public void testCase4() {
44         int[] d = {-1, -4, -6};
45         DataList dl = new DataList(d);
46         assertEquals(-1, dl.getMax());
47     }
48 }
49
```

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

Options :

6406531286898. ✖

1 | testCase1()

6406531286899. ✖

1 | testCase2()

6406531286900. ✖

1 | testCase3()

6406531286901. ✔

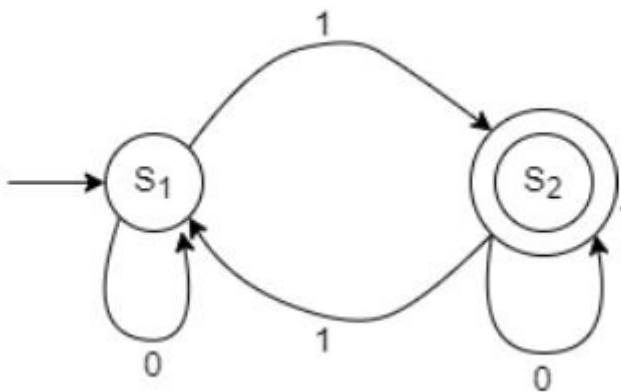
1 | testCase4()

Question Number : 61 Question Id : 640653386978 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 :

6406531286902. ✖ It accepts all the binary strings having an odd number of 0s.

6406531286903. ✔ It accepts all the binary strings having an odd number of 1s.

6406531286904. ✖ It accepts all the binary strings having an odd number of 0s and an odd number of 1s.

6406531286905. ✖ 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 :

64065355428

Question Shuffling Allowed :

Yes

Question Number : 62 Question Id : 640653386979 Question Type : MCQ Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Correct Marks : 8

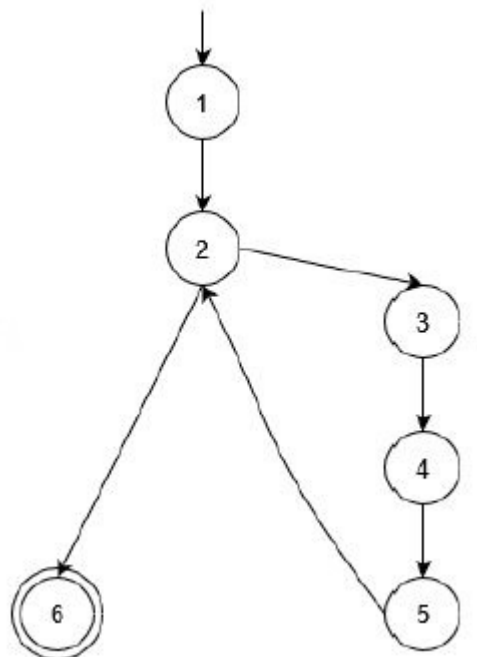
Question Label : Multiple Choice Question

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 }
```

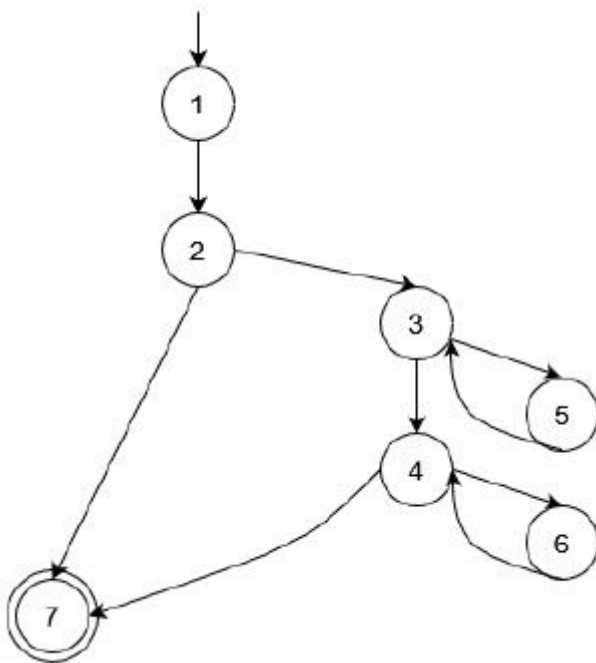
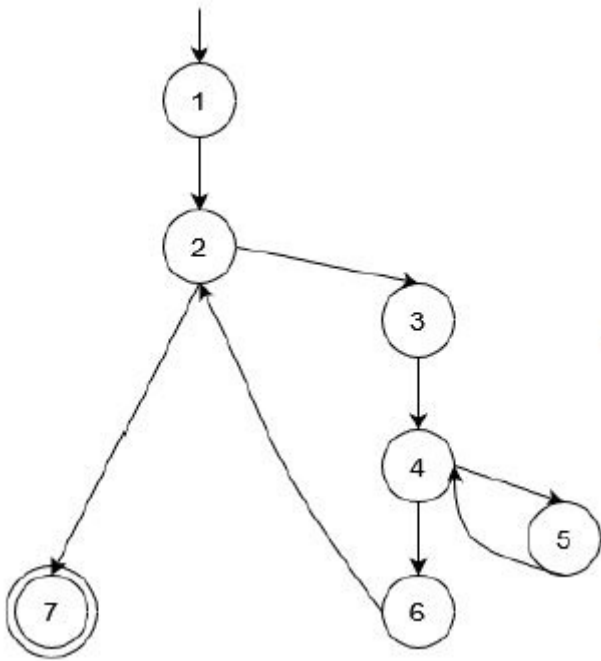
Identify the correct CFG for the method `sort()`.

Options :

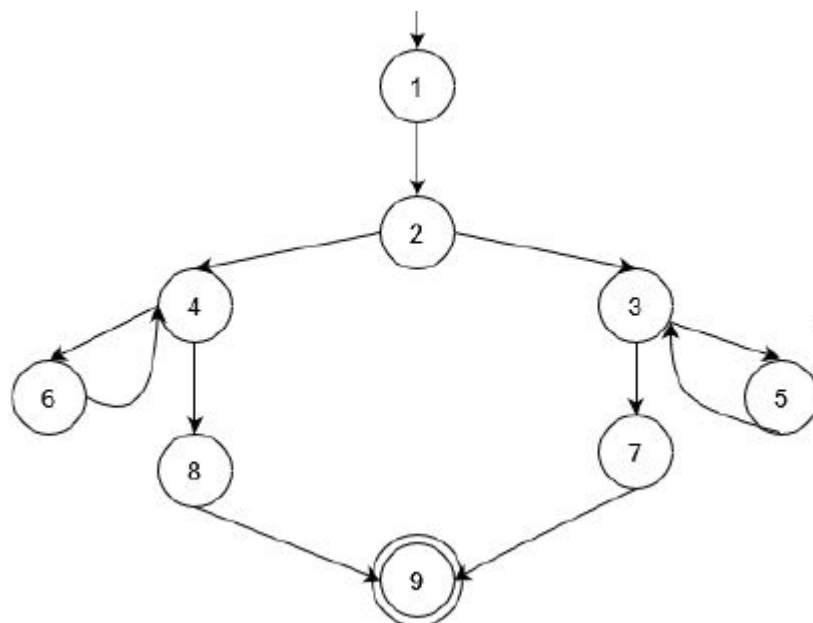


6406531286906. ✖

6406531286907. ✔



6406531286908. ✖



6406531286909. ✖

Sub-Section Number : 7
Sub-Section Id : 64065355429
Question Shuffling Allowed : Yes

Question Number : 63 Question Id : 640653386989 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?

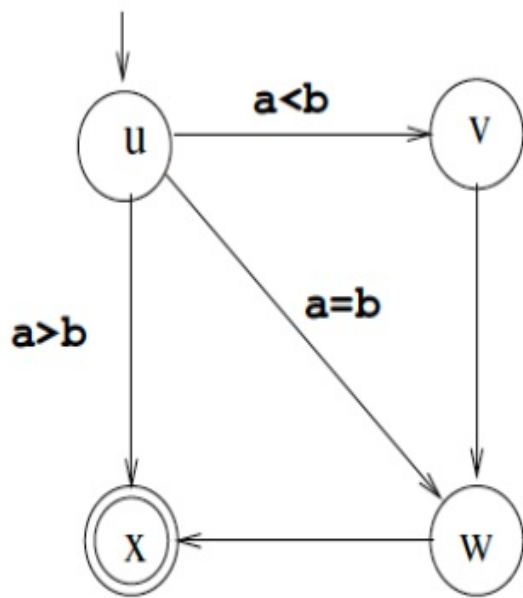
Options :

- 6406531286938. ✓ The location of the program should be reachable by the test case given by the tester.
- 6406531286939. ✓ The state of the program must be incorrect at that location of the program.
- 6406531286940. ✓ The final state of the program should be incorrect.
- 6406531286941. ✗ The tester should see the error in the program.

Question Number : 64 Question Id : 640653386993 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 :

6406531286952. ✓ a=5, b=7

6406531286953. ✗ a=5, b=5

6406531286954. ✗ a=8, b=7

6406531286955. ✓ a=0, b=1

Sub-Section Number :

8

Sub-Section Id :

64065355430

Question Shuffling Allowed :

Yes

Question Number : 65 Question Id : 640653386988 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 :

6406531286934. ✖ T_1 will necessarily satisfy C_2 .

6406531286935. ✔ T_2 will necessarily satisfy C_1

6406531286936. ✖ If T_2 exposes some fault in B implies that T_1 will also be able to expose the same fault.

6406531286937. ✖ None of these

Sub-Section Number : 9
Sub-Section Id : 64065355431
Question Shuffling Allowed : Yes

Question Number : 66 **Question Id :** 640653386998 **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 $\geq x$ 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 :

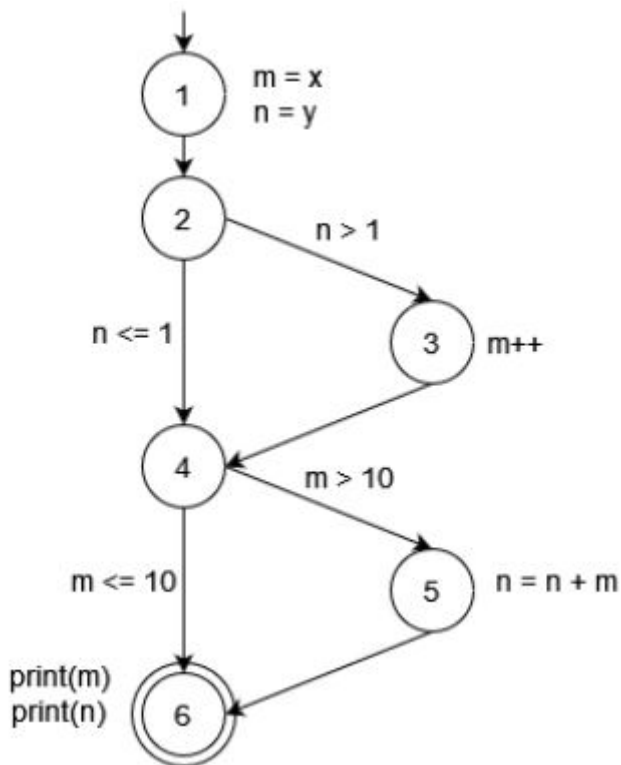
2

Sub-Section Number : 10
Sub-Section Id : 64065355432
Question Shuffling Allowed : No

Question Id : 640653386984 **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 : 640653386985 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 :

6406531286922. ✖ 8

6406531286923. ✖ 9

6406531286924. ✔ 10

6406531286925. ✖ 11

Question Number : 68 Question Id : 640653386986 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 :

6406531286926. ✓ 7

6406531286927. ✗ 8

6406531286928. ✗ 9

6406531286929. ✗ 10

Question Id : 640653386994 Question Type : COMPREHENSION Sub Question Shuffling

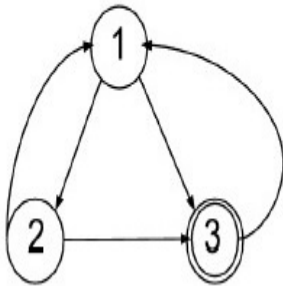
Allowed : No Group Comprehension Questions : No Calculator : None Response Time : N.A

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 : 640653386995 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 :

6406531286956. ✖ [1, 2, 3, 1]

6406531286957. ✔ [1, 2, 3, 1, 2, 1, 3]

6406531286958. ✔ [1, 3, 1, 2, 3]

6406531286959. ✖ [1, 2, 3, 2, 3]

Question Number : 70 Question Id : 640653386996 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 :

6406531286960. ✖ P directly tours the prime path.

6406531286961. ✔ P tours the prime path with the sidetrip [1, 2, 1].

6406531286962. ✖ P tours the prime path with the sidetrip [2, 1, 2].

6406531286963. ✖ P does not tours the prime path in any case.

Sub-Section Number : 11

Sub-Section Id : 64065355433

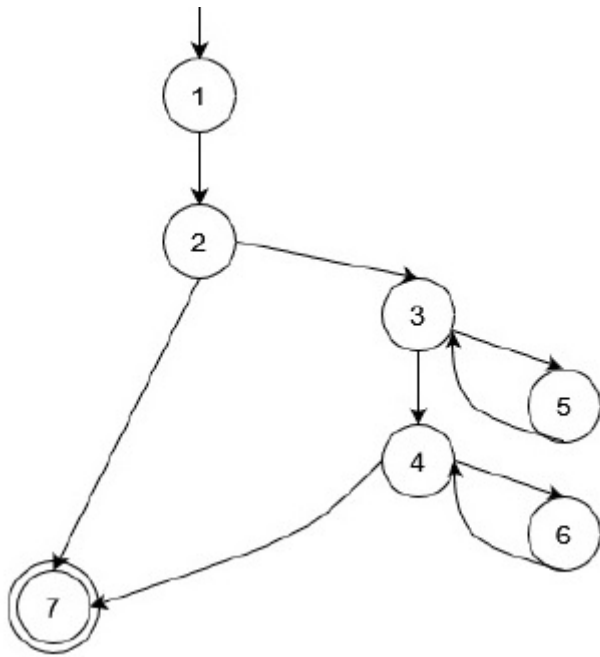
Question Shuffling Allowed : No

Question Id : 640653386980 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 : 640653386981 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 :

6406531286910. ✖ 10

6406531286911. ✖ 11

6406531286912. ✔ 12

6406531286913. ✖ 13

Question Number : 72 Question Id : 640653386982 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 :

6406531286914. ✖ 27

6406531286915. ✖ 29

6406531286916. ✖ 31

6406531286917. ✔ 36

Question Number : 73 Question Id : 640653386983 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 :

6406531286918. ✖ 10

6406531286919. ✔ 11

6406531286920. ✖ 12

6406531286921. ✖ 13

Sw Engg

Section Id :	64065323916
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 :	64065355434
Question Shuffling Allowed :	No

Question Number : 74 Question Id : 640653386999 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 :

6406531286969. ✓ YES

6406531286970. ✗ NO

AI

Section Id :	64065323917
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 :	64065355435
Question Shuffling Allowed :	No

Question Number : 75 Question Id : 640653387000 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 :

6406531286971. ✓ YES

6406531286972. ✗ NO

Sub-Section Number :	2
Sub-Section Id :	64065355436
Question Shuffling Allowed :	No

Question Id : 640653387001 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)

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 : 640653387002 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 _____ .

G

1	2	3
8		4
7	6	5

A

8	1	3
2		4
7	6	5

B

8	3	1
7	2	4
	6	5

C

8	1	3
7	2	4
	6	5

D

8	3	1
2		4
7	6	5

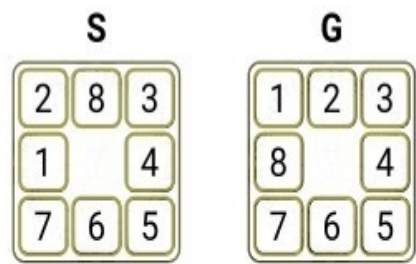
Options :

- 6406531286973. ✖ Board G
- 6406531286974. ✖ Board A
- 6406531286975. ✖ Board B
- 6406531286976. ✔ Board C
- 6406531286977. ✖ Board D

Question Number : 77 Question Id : 640653387003 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 : 64065355437
Question Shuffling Allowed : No

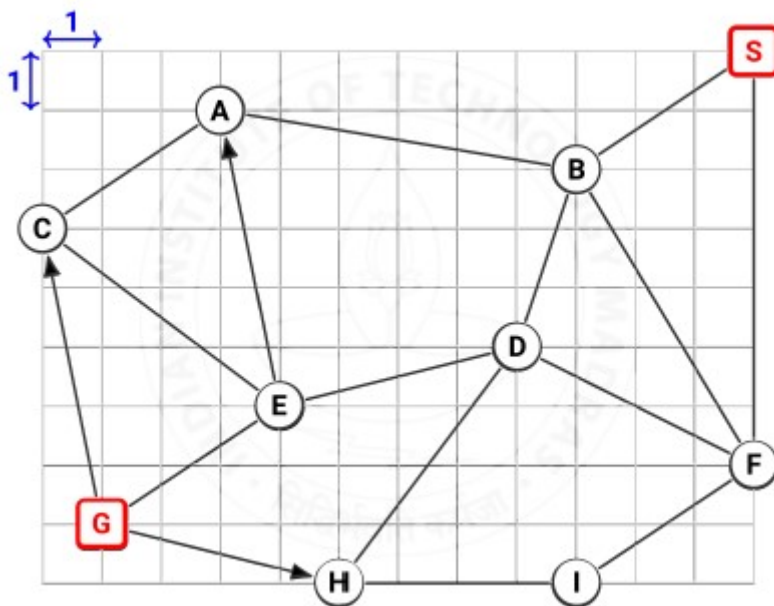
Question Id : 640653387004 Question Type : COMPREHENSION Sub Question Shuffling
Allowed : No Group Comprehension Questions : No Calculator : None Response Time : N.A
Think Time : N.A Minimum Instruction Time : 0
Question Numbers : (78 to 86)
Question Label : Comprehension

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 : 640653387005 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 : 640653387006 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 : 640653387007 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 : 640653387008 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 : 640653387009 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 : 640653387010 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 : 640653387011 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 : 640653387012 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

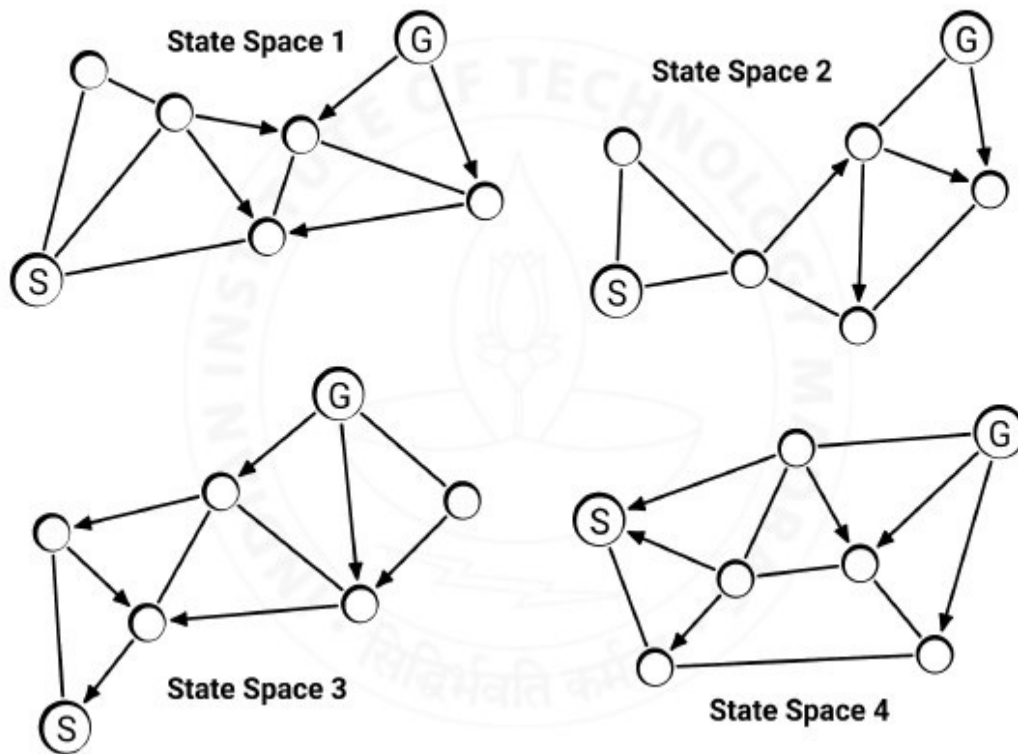
Question Number : 86 Question Id : 640653387013 Question Type : MSQ Is Question

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 :

6406531286987. ✖ State Space 1

6406531286988. ✔ State Space 2

6406531286989. ✖ State Space 3

6406531286990. ✔ State Space 4

Sub-Section Number :

4

Sub-Section Id :

64065355438

Question Shuffling Allowed :

No

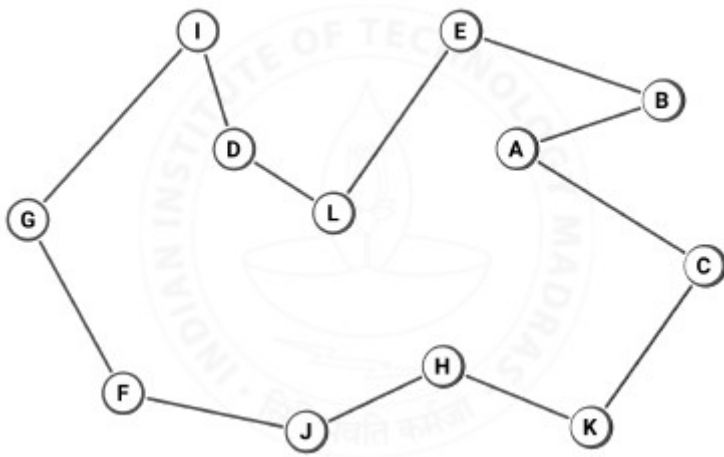
Question Id : 640653387014 Question Type : COMPREHENSION Sub Question Shuffling Allowed : No Group Comprehension Questions : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Question Numbers : (87 to 90)

Question Label : Comprehension

GENETIC ALGORITHM

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 : 640653387015 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 :

6406531286991. ✓ I,D,L,E,B,A,C,K,H,J,F,G

6406531286992. ✓ A,B,E,L,D,I,G,F,J,H,K,C

6406531286993. ✗ A,C,K,L,G,J,F,H,I,D,E,B

6406531286994. ✗ A,C,K,F,B,H,G,I,D,L,E,J

Question Number : 88 Question Id : 640653387016 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 :

6406531286995. ✓ C,A,K,L,B,G,I,J,D,F,H,E

6406531286996. ✓ B,E,A,I,L,J,F,K,G,H,C,D

6406531286997. ✗ I,D,L,E,B,A,C,K,H,J,F,G

6406531286998. ✗ A,B,E,L,D,I,G,F,J,H,K,C

Question Number : 89 Question Id : 640653387017 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 :

6406531286999. ✓ 1,2,9,6,7,4,4,4,2,3,2,1

6406531287000. ✗ 9,4,10,4,2,1,1,5,3,3,1,1

6406531287001. ✗ 1,2,9,6,4,4,4,7,2,3,2,1

6406531287002. ✗ 3,10,8,3,2,2,5,1,3,3,2,1

Question Number : 90 Question Id : 640653387018 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 :

6406531287003. ✓ I,D,L,K,B,A,E,H,C,J,F,G

6406531287004. ✓ A,L,I,E,J,D,C,K,H,F,G,B

6406531287005. ✗ I,K,L,D,J,E,C,A,F,B,H,G

6406531287006. ✗ C,D,I,E,B,A,J,K,H,L,G,F

Sub-Section Number :

5

Sub-Section Id :

64065355439

Question Shuffling Allowed :

No

Question Id : 640653387019

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 : 640653387020 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 : 640653387021 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 :** 640653387022 **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 :** 640653387023 **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 : 640653387024 Question Type : SA Calculator : None

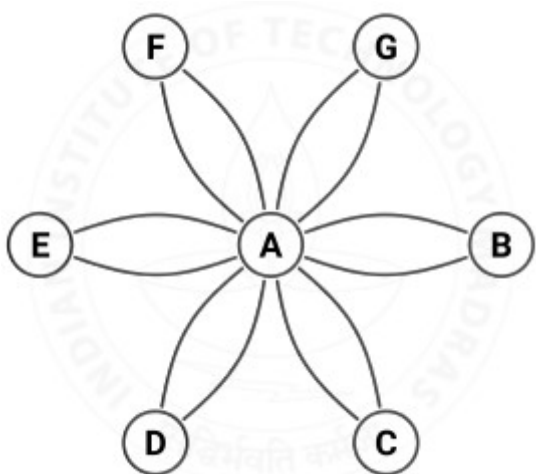
Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

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 :	64065323918
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 :	64065355440
Question Shuffling Allowed :	No

Question Number : 96 Question Id : 640653387025 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 :

6406531287012. ✓ YES

6406531287013. ✗ NO

Sub-Section Number : 2

Sub-Section Id : 64065355441

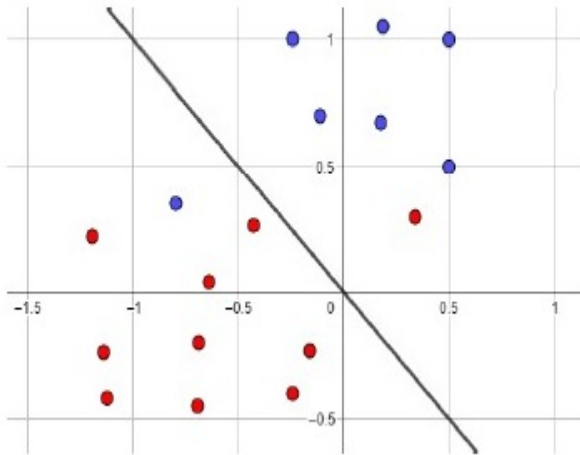
Question Shuffling Allowed : Yes

Question Number : 97 Question Id : 640653387030 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 :

6406531287027. ✓ 15

6406531287028. ✗ 10

6406531287029. ✗ 2

6406531287030. ✗ Insufficient information

Question Number : 98 Question Id : 640653387043 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 :

6406531287063. ✓ 100

6406531287064. ✗ 10000

6406531287065. ✗ 1000

6406531287066. ✖ 10

Sub-Section Number : 3

Sub-Section Id : 64065355442

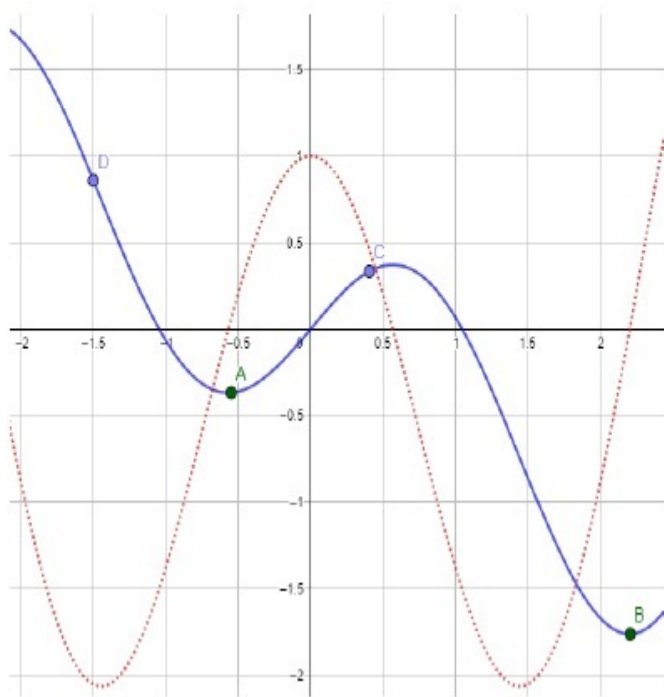
Question Shuffling Allowed : Yes

Question Number : 99 Question Id : 640653387042 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 :

6406531287059. ✔ The updated weight, after one iteration, moves past the minimum at A if the weight is initialized at point D

6406531287060. ✖ The updated weight, after one iteration, moves past the minimum at A if the weight is initialized at point C

6406531287061. ✔ The updated weight, after one iteration, moves towards the minimum at A if the weight is initialized at point C

6406531287062. ✓ 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 : 64065355443
Question Shuffling Allowed : No

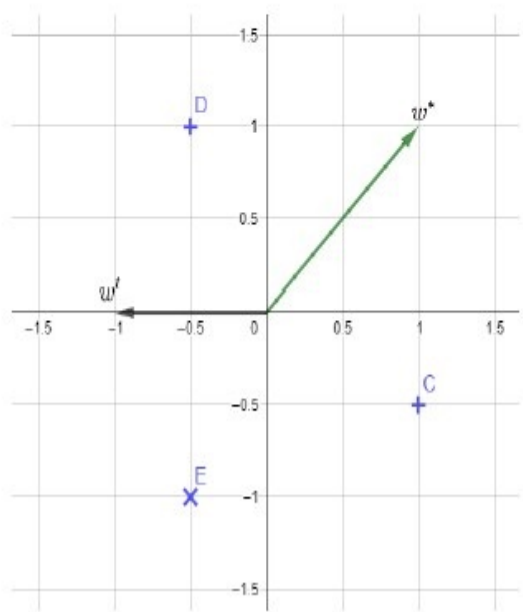
Question Id : 640653387031 Question Type : COMPREHENSION Sub Question Shuffling Allowed : No Group Comprehension Questions : No Calculator : None Response Time : N.A
Think Time : N.A Minimum Instruction Time : 0

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

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



Based on the above data, answer the given subquestions.

Sub questions

Question Number : 100 Question Id : 640653387032 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 :

6406531287031. ✓ Yes

6406531287032. ✗ No

Question Number : 101 Question Id : 640653387033 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 :

6406531287033. ✓ $w^{t+1} = [-1, 0]^T$

6406531287034. ✗ $w^{t+1} = [-1.5, 1]^T$

6406531287035. ✗ $w^{t+1} = [0.5, 1]^T$

6406531287036. ✗ $w^{t+1} = [-0.5, 1]^T$

Question Number : 102 Question Id : 640653387034 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 :

6406531287037. ✖ $w^{t+2} = [0.5, 1]^T$

6406531287038. ✖ $w^{t+2} = [0.5, 0.5]^T$

6406531287039. ✖ $w^{t+2} = [-1, 0]^T$

6406531287040. ✔ $w^{t+2} = [-0.5, 1]^T$

Question Number : 103 Question Id : 640653387035 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 :

6406531287041. ✔ 0

6406531287042. ✖ $\frac{\pi}{2}$

6406531287043. ✖ π

6406531287044. ✖ $\frac{\pi}{4}$

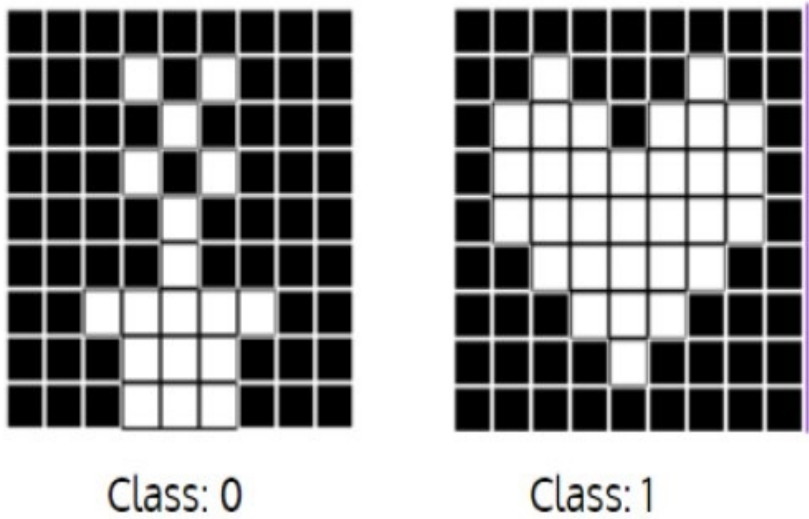
Sub-Section Number :

Question Id : 640653387026 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 : 640653387027 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 :

6406531287014. ✓ $\theta = 18$

6406531287015. ✗ $\theta = 81$

6406531287016. ✗ $\theta = 31$

6406531287017. ✓ $18 \leq \theta < 31$

6406531287018. ✗ $18 \leq \theta \leq 31$

6406531287019. ✗

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 : 640653387028 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 :

6406531287020. ✓ TRUE

6406531287021. ✗ FALSE

6406531287022. ✗ Not possible to decide

Question Number : 106 Question Id : 640653387029 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 :

6406531287023. ✓ 2^{81}

6406531287024. ✗ 2^{281}

6406531287025. ✗ 2

6406531287026. ✗ 2^2

Sub-Section Number :

6

Sub-Section Id :

64065355445

Question Shuffling Allowed :

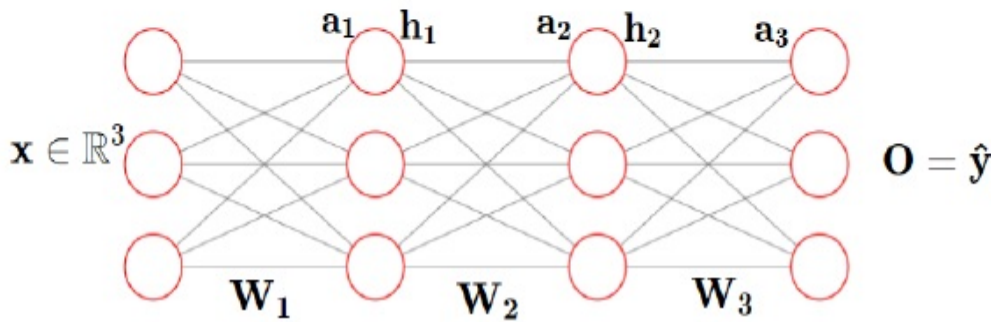
No

Question Id : 640653387036 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, \mathbf{x} is an input vector. The vectors $\mathbf{a}_l, \mathbf{h}_l$ 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 \mathbf{o} is an output vector $\mathbf{o} = \mathbf{h}_3 = \hat{\mathbf{y}}$. 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 : 640653387037 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 :

6406531287045. ✖ $\mathbf{h}_2 = \begin{bmatrix} 0.1 \\ 0 \\ 0.25 \end{bmatrix}$

6406531287046. ✔ $\mathbf{h}_1 = \begin{bmatrix} 0 \\ -0.25 \\ 0.1 \end{bmatrix}$

6406531287047. ✖ $\hat{\mathbf{y}} = \begin{bmatrix} 0.1 \\ 0.8 \\ 0.1 \end{bmatrix}$

6406531287048. ✓ $\hat{y} = \begin{bmatrix} 0.3 \\ 0.8 \\ 0.1 \end{bmatrix}$

Question Number : 108 Question Id : 640653387038 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 .

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

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 : 640653387039 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{y} (In all your calculations, take two digits after the decimal point and choose the answer that is closest to the given options)

Options :

6406531287050. ✓ $\hat{\mathbf{y}} = [0.73, 0.09, 0.18]^T$

6406531287051. ✖ $\hat{\mathbf{y}} = [0.50, 0.16, 0.34]^T$

6406531287052. ✖ $\hat{\mathbf{y}} = [0.15, 0.75, 0.1]^T$

6406531287053. ✖ $\hat{\mathbf{y}} = [0.73, 0.18, 0.09]^T$

Question Number : 110 Question Id : 640653387040 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 : 640653387041 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 :

6406531287055. ✖ 0.41

6406531287056. ✖ -0.41

6406531287057. ✔ -11.11

6406531287058. ✖ 11.11