

Response Type : Numeric

Evaluation Required For SA : Yes

Show Word Count : Yes

Answers Type : Range

Text Areas : PlainText

Possible Answers :

0.42 to 0.46

CT

Section Id :	64065322133
Section Number :	3
Section type :	Online
Mandatory or Optional :	Mandatory
Number of Questions :	16
Number of Questions to be attempted :	16
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 :	64065350370
Question Shuffling Allowed :	No

Question Number : 45 **Question Id :** 640653351265 **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 " **COMPUTATIONAL THINKING**"

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 :

6406531165824.  Yes

6406531165825.  No

Question Number : 46 Question Id : 640653351266 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

Scores								
SeqNo	Name	Gender	DateOfBirth	CityTown	Mathematics	Physics	Chemistry	Total
0	Bhuvanesh	M	7 Nov	Erode	68	64	78	210
<div> <div></div> <div></div> <div></div> </div>								
29	Naveen	M	13 Oct	Vellore	72	66	81	219

SeqNo	Word	PartOfSpeech	LetterCount
0	It	Pronoun	2
<div> <div></div> <div></div> <div></div> </div>			
64	cane.	Noun	4

Library							
SeqNo	Name	Author	Genre	Language	Pages	Publisher	Year
0	Igniting Minds	Kalam	Nonfiction	English	178	Penguin	2002
■ ■ ■							
29	Malgudi Days	Narayan	Fiction	English	150	Indian Thought	1943

Olympics							
SeqNo	Name	Gender	Nationality	Host country	Year	Sport	Medal
0	Karnam Malleswari	F	Indian	Australia	2000	Weightlifting	Bronze
- - -							
49	Michael Phelps	M	American	China	2008	Swimming	Gold

Three sample cards out of 30 for Shopping Bills dataset

Item List

Options :

6406531165826. ✓ Useful Data has been mentioned above.

6406531165827. ✖ This data attachment is just for a reference & not for an evaluation.

2

64065350371

Yes

Question Number : 47 Question Id : 640653351267 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

Let $D = \{ 'a' : \{ 'a' : 5, 'b' : 4 \}, 'b' : 1 \}$, then the value of $D['b']$ is 4.

Options :

6406531165828. ✖ TRUE

6406531165829. ✔ FALSE

Question Number : 48 Question Id : 640653351268 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 'x' is a key of dictionary D , then the value of $D['x']$ can be 'x'.

Options :

6406531165830. ✔ TRUE

6406531165831. ✖ FALSE

Sub-Section Number :	3
Sub-Section Id :	64065350372
Question Shuffling Allowed :	Yes

Question Number : 49 Question Id : 640653351269 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

If 'x' and 'y' are the only two keys of dictionary D and $L = \text{keys}(D)$ then

Options :

6406531165832. ✖ L = ['x', 'y']

6406531165833. ✖ L = ['y', 'x']

6406531165834. ✔ L = either ['x', 'y'] or ['y', 'x']

Question Number : 50 Question Id : 640653351271 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

Let **timeList** be a list of pairs containing information about trains associated with a station **stn**. Specifically, each element in this list is a pair: *[Arrival, Departure]* (pair of arrival and departure time). If the arrival or departure time is empty, it is represented as "None". What does **count** represent at the end of the execution of the following pseudocode?

```
1 count = 0
2 foreach x in timeList{
3     if(first(x) != "None" and last(x) != "None"){
4         count = count + 1
5     }
6 }
```

Options :

6406531165839. ✖ Number of trains for which **stn** is a starting station

6406531165840. ✖ Number of trains for which **stn** is an ending station

6406531165841. ✖ Number of trains for which **stn** is either a starting or an ending station

6406531165842. ✔ Number of trains for which **stn** is neither a starting nor an ending station

Sub-Section Number : 4

Sub-Section Id : 64065350373

Question Shuffling Allowed : Yes

Question Number : 51 Question Id : 640653351272 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 word is said to be "Vowel Rich" if the word has at least three distinct vowels. Let **isRich** be a procedure that takes a row **X** from the "Words" table as input and returns True if the word in row **X** is a Vowel Rich otherwise returns False. Choose the correct code fragment to complete the procedure **isRich**.

```
1 Procedure isRich(x)
2     vDict = {}
3     i = 1, A = ''
4     while(i <= x.LetterCount){
5         A = ith letter in x.word
6         *****
7         ** Fill the code **
8         *****
9         i = i + 1
10    }
11    if(length(keys(vDict)) >= 3){
12        return(True)
13    }
14    return(False)
15 End isRich
```

Options :

```
1 if(A is a vowel){
2     vDict[A] = True
3 }
```

6406531165843. ✓

```
1 if(A is a vowel){
2     vDict[A] = True
3 }
4 else{
5     vDict[A] = False
6 }
```

6406531165844. ✗

```
1 if(A is a vowel){
2     vDict[A] = vDict[A] + 1
3 }
```

6406531165845. ✗

```

1  if(A is a vowel){
2      vDict[A] = False
3  }
4  else{
5      vDict[A] = True
6  }

```

6406531165846. ✖

Sub-Section Number :

5

Sub-Section Id :

64065350374

Question Shuffling Allowed :

Yes

Question Number : 52 Question Id : 640653351274 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

The following pseudocode is executed using the "Words" dataset. Assume that the rows in Table 1 are arranged in the increasing order of sequence numbers from top to bottom. What will L represent at the end of the execution?

```

1  L = []
2  A = "None"
3  Read the first row X in Table 1
4  A = X.PartOfSpeech
5  Move X to Table 2
6  while(Table 1 has more rows){
7      Read the first row Y in Table 1
8      if(Y.PartOfSpeech == "Noun"){
9          if(A == "Adjective"){
10             L = L ++ [Y.Word]
11         }
12     }
13     A = Y.PartOfSpeech
14     Move Y to Table 2
15 }

```

Options :

6406531165851. ✔ List of nouns that appear immediately after an adjective

6406531165852. ✖ List of adjectives that appear immediately after a noun

6406531165853. ✖ List of nouns that appear immediately before an adjective

6406531165854. ✖ List of adjectives that appear immediately before a noun

Question Number : 53 Question Id : 640653351276 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

Two trains are called "Opposite Trains" if they stop at the same set of stations but in the reverse order. **isOpposite(N1, N2)** returns True if trains with train numbers **N1** and **N2** are "Opposite Trains" and False otherwise.

trains is a dictionary with train number as key mapped to a list of stations which that train runs through. For example, **trains** = { 12281: ["Bhubaneswar", "Balasore", "Adra", "Varanasi", "Kanpur", "New Delhi"],}. In this example, the train with train number 12281 starts from Bhubaneswar and reaches New Delhi via Balasore, Adra, Varanasi, and Kanpur in the given order.

Choose the correct code fragment to complete the procedure.

```
1 Procedure isOpposite(N1, N2)
2     L1 = trains[N1]
3     L2 = trains[N2]
4     if(length(L1) != length(L2)){
5         return(False)
6     }
7     *****
8     * Fill the code      *
9     *****
10    if(L1 == []){
11        return(True)
12    }
13    else{
14        return(False)
15    }
16
17 End isOpposite
```

Options :

6406531165859. ✔


```
1 while(L1 != [] and first(L1) == last(L2)){
2     L1 = rest(L1)
3     L2 = init(L2)
4 }
```

```
1 while(L2 != [] and first(L2) == last(L1)){
2     L1 = rest(L1)
3     L2 = init(L2)
4 }
```

6406531165860. ✖

```
1 while(L1 == [] and first(L1) == last(L2)){
2     L1 = rest(L1)
3     L2 = init(L2)
4 }
```

6406531165861. ✖

```
1 while(L2 == [] and first(L2) == last(L1)){
2     L1 = rest(L1)
3     L2 = init(L2)
4 }
```

6406531165862. ✖

Question Number : 54 Question Id : 640653351277 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

The given pseudocode is executed using the "Words" dataset. **C** stores the number of nouns which have at least one adjective adjacent to it. Choose the correct code fragment to complete the pseudocode.

```
1  A = [], N = [], C = 0
2  while(Table 1 has more rows){
3      Read the first row X in Table 1
4      if(X.PartOfSpeech == "Adjective"){
5          A = A ++ [X.SeqNo]
6      }
7      if(X.PartOfSpeech == "Noun"){
8          N = N ++ [X.SeqNo]
9      }
10     Move X to Table 2
11 }
12 *****
13 * Fill the code *
14 *****
```

Options :

```
1  foreach Y in N{
2      if(member(A, Y - 1) or member(A, Y + 1)){
3          C = C + 1
4      }
5  }
```

6406531165863. ✓

```
1  foreach Y in N{
2      if(member(A, Y - 1) and member(A, Y + 1)){
3          C = C + 1
4      }
5  }
```

6406531165864. ✖

```
1  foreach Y in A{
2      if(member(N, Y - 1) or member(N, Y + 1)){
3          C = C + 1
4      }
5  }
```

6406531165865. ✖

6406531165866. ✖

```

1  foreach Y in A{
2      if(member(N, Y - 1) and member(N, Y + 1)){
3          C = C + 1
4      }
5  }

```

Sub-Section Number : 6

Sub-Section Id : 64065350375

Question Shuffling Allowed : Yes

Question Number : 55 Question Id : 640653351270 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

Let **D** be a dictionary, then which of the following is(are) a valid value(s) of **D**? It is a Multiple Select Question (MSQ).

Options :

6406531165835. ✓ {'x': {'y': 3, 'x': 2}, 'y': {'x': 3, 'y': 4}}

6406531165836. ✗ {'x': {'y': 3, 'y': 2}, 'y': {'x': 3, 'x': 2}}

6406531165837. ✓ {'x': {'x': 2}, 'y': {'y': 4}}

6406531165838. ✓ {'x': {3: 'y'}, 'y': {2: 'z'}}

Sub-Section Number : 7

Sub-Section Id : 64065350376

Question Shuffling Allowed : Yes

Question Number : 56 Question Id : 640653351273 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

The following pseudocode is executed using the "Olympics" dataset. At the end of the execution, **medalDict** stores a dictionary with player's name as key mapped to the list of medal type associated with the player. Assume that every player has a distinct name. But the pseudocode may have mistakes. Identify all such mistakes (if any). Assume that all statements not listed in the options below are free of errors. It is a Multiple Select Question (MSQ).

```
1 medalDict = {}
2 while(Table 1 has more rows){
3     Read the first row X in Table 1
4     if(isKey(medalDict, X.Name)){
5         medalDict[X.Name] = medalDict[X.Name] ++ [X.Medal]
6     }
7     else{
8         medalDict[X.Name] = [X.Medal]
9     }
10    Move X to Table 2
11 }
```

Options :

6406531165847. ✖ Line 1: Incorrect initialization of **medalDict**

6406531165848. ✖ Line 4: Incorrect conditional statement

Line 5: The current statement should be replaced by

```
1 medalDict[X.Name] = medalDict[X.Name] ++ [[X.Medal]]
```

6406531165849. ✖

6406531165850. ✔ No mistakes

Sub-Section Number :

8

Sub-Section Id :

64065350377

Question Shuffling Allowed :

Yes

Question Number : 57 Question Id : 640653351275 Question Type : MSQ Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Correct Marks : 4

Question Label : Multiple Select Question

Consider the given procedure **isInOrder**. Let **Loi** be a list of distinct positive integers. Choose the correct option(s) for which **isInOrder(Loi)** will return True. It is a Multiple Select Question (MSQ) .

```
1 Procedure isInOrder(L1)
2   A = True, L = L1
3   while(length(L) >= 2){
4     if(first(L) < first(rest(L))){
5       A = False
6     }
7     L = rest(L)
8   }
9
10  B = True, L = L1
11  while(length(L) >= 2){
12    if(first(L) > first(rest(L))){
13      B = False
14    }
15    L = rest(L)
16  }
17  return(not A and not B)
18 End isInOrder
```

Options :

- 6406531165855. ✖ Elements of **Loi** are in ascending order
- 6406531165856. ✖ Elements of **Loi** are in descending order
- 6406531165857. ✖ Elements of **Loi** are either in ascending or in descending order
- 6406531165858. ✔ Elements of **Loi** are neither in ascending nor in descending order

Question Number : 58 Question Id : 640653351278 Question Type : MSQ Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Correct Marks : 4

Question Label : Multiple Select Question

Let **medalDict** be a dictionary with player's name as a key mapped to the list of medals associated with the player from the "Olympics" dataset. For example **medalDict** = {"xyz" : ["Silver", "Gold", "Gold"], }. In this example, the player xyz has won one Silver and two Gold medals.

At the end of the execution, **repeatCount(medalDict)** returns the number of players who have won at least one medal more than one time. But the code may have mistakes. Identify all such mistakes (if any). Assume that all statements not listed in the options below are free of errors. It is a Multiple Select Question (MSQ).

```
1 procedure repeatCount(medalDict)
2     count = 0
3     foreach player in keys(medalDict){
4         tempDict = {}
5         foreach medal in medalDict[player]{
6             if(iskey(tempDict, medal)){
7                 count = count + 1
8                 exitloop
9             }
10            else{
11                tempDict[medal] = True
12            }
13        }
14    }
15    return(count)
16 End repeatCount
```

Options :

6406531165867. ✖ Line 2: Incorrect initialization of **count**

6406531165868. ✖ Line 6: Incorrect conditional statement

6406531165869. ✖ Line 11: The current statement should be replaced by `count = 1`

6406531165870. ✔ No mistakes

Sub-Section Number : 9

Sub-Section Id : 64065350378

Question Shuffling Allowed : No

Question Id : 640653351279 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 : (59 to 60)

Question Label : Comprehension

Let **Z** be a row in the "Words" table. Use the procedure given below for answering the given subquestions.

```
1 Procedure updateDict(Z, Dict)
2     i = 1, x = ''
3     while(i <= Z.LetterCount){
4         x = ith letter of Z.word
5         if(not iskey(Dict, x)){
6             Dict[x] = 1
7         }
8         else{
9             Dict[x] = Dict[x] + 1
10        }
11        i = i + 1
12    }
13    return(Dict)
14 End updateDict
```

Sub questions

Question Number : 59 Question Id : 640653351280 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

Let **Z.Word** be "honesty". What will be the value of **alphaDict['e']** at the end of the execution of the following pseudocode using the procedure mentioned in the main question?

```
1 alphaDict = {'t':2, 'c':1, 'e':1}
2 alphaDict = updateDict(Z, alphaDict)
```

NOTE: Enter your answer to the nearest integer.

Response Type : Numeric

Evaluation Required For SA : Yes

Show Word Count : Yes

Answers Type : Equal

Text Areas : PlainText

Possible Answers :

2

Question Number : 60 **Question Id :** 640653351281 **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 following pseudocode is executed using the "Words" dataset and the procedure **updateDict** mentioned in the main data.

```
1  D = {}
2  while(Table 1 has more rows){
3      Read the first row X in Table 1
4      D = updateDict(X, D)
5      Move X to Table 2
6  }
```

At the end of the execution of above pseudocode, let 'a' be a letter from the "Words" dataset, then **D['a']** will be

Options :

6406531165872. ✓ The frequency count of 'a' in the dataset.

6406531165873. ✗ Number of words in which 'a' is present.

6406531165874. ✗ Number of sentences in which 'a' is present.

6406531165875. ✗ List of words in which 'a' is present.

Sub-Section Number : 10

Sub-Section Id : 64065350379

Question Shuffling Allowed : No

Question Id : 640653351282 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 : (61 to 63)

Question Label : Comprehension

The following pseudocode is executed using the "Scores" dataset. At the end of the execution, **medalList** should store the list of sequence numbers of the students who have scored at least 200 total marks and have scored more than 80 at least in two subjects. Answer the given subquestions based on the pseudocode.

```
1 medalList = [], A = False, sCount = 0
2 while(Table 1 has more rows){
3     Read the first row X in Table 1
4     A = s200[X.SeqNo]
5     sCount = nSub(X.SeqNo)
6     if(A and sCount >= 2){
7         medalList = medalList ++ [X.SeqNo]
8     }
9     Move X to Table 2
10 }
```

Sub questions

Question Number : 61 Question Id : 640653351283 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

Which of the following statement(s) is(are) true about **s200** based on the given pseudocode? It is a Multiple Select Question (MSQ).

Options :

6406531165876. ✖ **s200** is a procedure which accepts the sequence number of a student and returns True if the student has scored at least 200 total marks otherwise returns False.

6406531165877. ✔ **s200** is a dictionary with sequence numbers of students mapped to True if the student has scored at least 200 total marks otherwise mapped to False.

6406531165878. ✖ **s200** is a dictionary with sequence numbers of students mapped to False if the student has scored at least 200 total marks otherwise mapped to True.

6406531165879. ✖ **s200** is a procedure which accepts the sequence number of a student and returns False if the student has scored at least 200 total marks otherwise returns True.

Question Number : 62 Question Id : 640653351284 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

Which of the following statement(s) is(are) true about **nSub** based on the given pseudocode? It is a Multiple Select Question (MSQ).

Options :

6406531165880. ✖ **nSub** is a procedure which accepts the sequence number of a student and returns True if the student has scored more than 80 marks at least in two subjects otherwise returns False.

6406531165881. ✔ **nSub** is a procedure which accepts the sequence number of a student and returns the number of subjects in which the student has scored more than 80 marks.

6406531165882. ✖ **nSub** is a dictionary with sequence numbers of students mapped to the number of subjects in which the student has scored more than 80 marks.

6406531165883. ✖ **nSub** is a procedure which accepts the sequence number of a student and returns False if the student has scored more than 80 marks at least in two subjects otherwise returns True.

Question Number : 63 Question Id : 640653351285 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

Let **M**, **P**, and **C** be the lists of the sequence numbers of the students who have scored more than 80 marks in Mathematics, Physics, and Chemistry respectively. If **n** is the sequence number of a student then choose the correct implementation of **nSub**?

Options :

```
1 Procedure nSub(n)
2   count = 0
3   if(member(M, n)){
4     count = count + 1
5   }
6   if(member(P, n)){
7     count = count + 1
8   }
9   if(member(C, n)){
10    count = count + 1
11  }
12  return(count)
13 End nSub
```

6406531165884. ✓

```
1 Procedure nSub(n)
2   count = 0
3   if(member(M, n)){
4     count = count + 1
5   }
6   if(member(P, n)){
7     count = count + 1
8   }
9   if(member(C, n)){
10    count = count + 1
11  }
12  if(count >= 2){
13    return(True)
14  }
15  return(False)
16 End nSub
```

6406531165885. ✖

6406531165886. ✖

```

1  nSub = {}
2  while(Table 1 has more rows){
3      Read the first row X from Table 1
4      count = 0
5      if(member(M, X.SeqNo)){
6          count = count + 1
7      }
8      if(member(P, X.SeqNo)){
9          count = count + 1
10     }
11     if(member(C, X.SeqNo)){
12         count = count + 1
13     }
14     if(count >= 2){
15         nSub[SeqNo] = True
16     }
17     Move X to Table 2
18 }

```

```

1  nSub = {}
2  while(Table 1 has more rows){
3      Read the first row X from Table 1
4      count = 0
5      if(member(M, X.SeqNo)){
6          count = count + 1
7      }
8      if(member(P, X.SeqNo)){
9          count = count + 1
10     }
11     if(member(C, X.SeqNo)){
12         count = count + 1
13     }
14     nSub[X.SeqNo] = count
15     Move X to Table 2
16 }

```

6406531165887. ✖

DBMS

Section Id :

64065322134

Section Number :

4