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

Group I

Group Number :	1
Group Id :	64065315358
Group Maximum Duration :	0
Group Minimum Duration :	90
Show Attended Group? :	No
Edit Attended Group? :	No
Break time :	0
Group Marks :	355
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
Section Selection Time? :	0
No of Optional sections to be attempted :	0

Sem1 CT

Section Id :	64065344871
Section Number :	1
Section type :	Online
Mandatory or Optional :	Mandatory
Number of Questions :	14
Number of Questions to be attempted :	14
Section Marks :	50
Display Number Panel :	Yes
Section Negative Marks :	0
Group All Questions :	No
Enable Mark as Answered Mark for Review and Clear Response :	Yes
Maximum Instruction Time :	0
Sub-Section Number :	1
Sub-Section Id :	64065394969
Question Shuffling Allowed :	No
Is Section Default? :	null

Question Number : 1 Question Id : 640653667797 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 "FOUNDATION LEVEL : SEMESTER I: COMPUTATIONAL THINKING (COMPUTER BASED EXAM)"

ARE YOU SURE YOU HAVE TO WRITE EXAM FOR THIS SUBJECT?

CROSS CHECK YOUR HALL TICKET TO CONFIRM THE SUBJECTS TO BE WRITTEN.

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

Options :

6406532237792. ✔ YES

6406532237793. ✖ NO

Question Number : 2 Question Id : 640653667798 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

RowNo	Name	Gender	DateOfBirth	CityTown	Mathematics	Physics	Chemistry	Total
0	Bhuvanesh	M	7 Nov	Erode	68	64	78	210
■ ■ ■								
29	Naveen	M	13 Oct	Vellore	72	66	81	219

Words

RowNo	Word	PartOfSpeech	LetterCount
0	It	Pronoun	2
■ ■ ■			
64	cane.	Noun	4

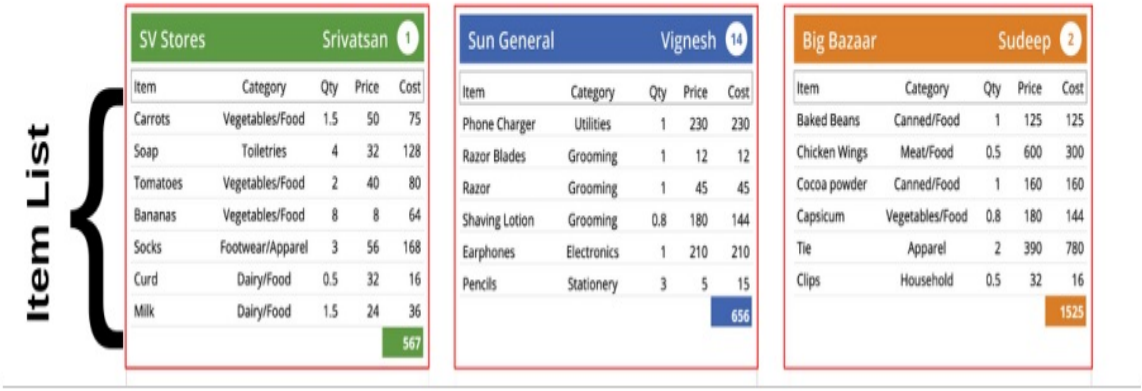
Library

RowNo	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

Seq. No.	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



Options :

6406532237794. ✔ Useful Data has been mentioned above

6406532237795. ✖ This data attachment is just for a reference & not for an evaluation.

Sub-Section Number : 2

Sub-Section Id : 64065394970

Question Shuffling Allowed : Yes

Is Section Default? : null

Question Number : 3 Question Id : 640653667799 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

Match the following expressions on the left side with the appropriate values on the right side.

a. 2 == 2 or 2 > 3	1. Invalid expression
b. 2 == 2 and 2 > 3	2. True
c. 2 = 3	3. False
d. 2 + '2'	4. 4
e. 2 < 3	5. '22'

Options :

6406532237796. ✔ a - (2), b - (3), c - (1), d - (1), e - (2)

6406532237797. ✖ a - (2), b - (3), c - (1), d - (5), e - (2)

6406532237798. ✖ a - (2), b - (3), c - (1), d - (4), e - (2)

6406532237799. ✖ a - (1), b - (3), c - (2), d - (1), e - (1)

6406532237800. ✖ a - (1), b - (1), c - (2), d - (5), e - (1)

Sub-Section Number : 3

Sub-Section Id : 64065394971

Question Shuffling Allowed : Yes

Is Section Default? : null

Question Number : 4 Question Id : 640653667810 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 given procedure is executed using the "Library" dataset (Table 1).

```
Procedure selected (auth, gen, num)
    countT = 0, countG = 0
    while (Table 1 has more rows) {
        Read the first row X from Table 1
        if (X.Author == auth) {
            countT = countT + 1
            if (X.Genre == gen) {
                countG = countG + 1
            }
        }
        Move X to Table 2
    }
    if (countG / countT ≥ num / 100) {
        return(True)
    }
    return(False)
End selected
```

selected("Narayan", "Fiction", 10) will return True if

Options :

6406532237838. ✔ At least 10 percent of the books written by Narayan are in the genre Fiction.

6406532237839. ✖ At most 10 percent of the books written by Narayan are in the genre Fiction.

6406532237840. ✖ At least 10 books written by Narayan are in the genre Fiction.

6406532237841. ✖ At most 10 books written by Narayan are in the genre Fiction.

Sub-Section Number : 4

Sub-Section Id : 64065394972

Question Shuffling Allowed : Yes

Is Section Default? : null

Question Number : 5 Question Id : 640653667801 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

miniSum accepts three numbers as parameters and returns the sum of two least parameters.
Choose the correct code fragment to complete the procedure.

```
Procedure miniSum(A, B, C)
    Sum = 0
    if (A > C and A > B) {
        Sum = B + C
    }
    **********************
    *     Fill the code    *
    **********************
    return (Sum)
End miniSum
```

Options :

6406532237805. ✔

```
else {
    if (B > C and B > A) {
        Sum = A + C
    }
    else {
        Sum = A + B
    }
}
```

6406532237806. ✖

```
if (B > C and B > A) {
    Sum = A + C
}
else {
    Sum = A + B
}
```

6406532237807. ✖

```
else {
    Sum = A + B
}
else {
    if (C > B and B > A) {
        Sum = A + C
    }
}
```

```
else {
    Sum = A + B
}
if (C > B and B > A) {
    Sum = A + C
}
```

6406532237808.

Question Number : 6 Question Id : 640653667802 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 a dataset having the same fields as the "Words" dataset, and contains the following words -

"she sells seashells by the seashore the shells she sells are seashells I'm sure."

```
while (Table 1 has more rows) {
    Read the first row X from Table 1
    Move X to Table 2
    while (Table 1 has more rows) {
        Read the first row Y from Table 1
        if (X.Word == Y.Word) {
            Move Y to Table 3
        }
        else {
            Move Y to Table 4
        }
    }
    Move all rows from Table 4 to Table 1.
}
```

Choose the correct paragraph created from the Table 2 at the end of execution of above pseudocode.

Options :

6406532237809. ✔ "she sells seashells by the seashore shells are I'm sure."

6406532237810. ✖ "she sells seashells by the seashore the shells sells are seashells I'm sure."

6406532237811. ✖ "sells seashells by the seashore the shells she sells are seashells I'm sure."

6406532237812. ✖ "by seashore the shells she sells are seashells I'm sure."

Question Number : 7 Question Id : 640653667803 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 company has collected some data (stored in Table 1) for promotion of their products. Every row in the table has information about the number of people willing to attend the promotion on Saturday and Sunday, respectively, in a given city. For example take the first row. According to Fantabook, 20 and 30 people are willing to attend the promotion on Saturday and Sunday, respectively, in Chennai.

Seq. N.	Source	City	Saturday	Sunday
1	Fantabook	Chennai	20	30
2	Pantagram	Mumbai	50	30
3	Fwitter	Chennai	30	20
4	Pantagam	Lucknow	30	50
5	Fwitter	Hyderabad	30	10
6	Fantabook	Lucknow	20	50

Table 1

The pseudocode below is used to process the data in this table.

```
Procedure bestDay (Z)
    countSat = 0, countSun = 0
    while (Table 1 has more rows) {
        Read the first row X from Table 1
        if (X.City == Z) {
            countSat = countSat + X.Saturday
            countSun = countSun + X.Sunday
        }
        Move X to Table 2
    }
    if (countSun ≥ countSat) {
        return("Sunday")
    }
    return("Saturday")
End bestDay
```

Which of the following is correct?

Options :

6406532237813. ✔ **bestDay** ("Lucknow") = "Sunday", **bestDay** ("Chennai") = "Sunday"

6406532237814. ✖ **bestDay** ("Lucknow") = "Saturday" , **bestDay** ("Chennai") = "Sunday"

6406532237815. ✖ **bestDay** ("Lucknow") = "Sunday", **bestDay** ("Chennai") = "Saturday"

6406532237816. ✖ bestDay ("Lucknow") = "Saturday", bestDay ("Chennai") = "Saturday"

Question Number : 8 Question Id : 640653667814 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.

```
Count = 0
while (Table 1 has more rows) {
    Read the first row X in Table 1
    Move X to Table 2
    letter = '1', C = 0
    i = 1, A = False
    while (i ≤ X.LetterCount) {
        if (ith letter of X.Word is a vowel) {
            if (A and letter == ith letter of X.Word){
                C = 1
            }
            letter = ith letter of X.Word
            A = True
        }
        else {
            A = False
        }
        i = i + 1
    }
    if (C == 1) {
        Count = Count + 1
    }
}
```

What will **Count** represent at the end of execution?

Options :

6406532237850. ✖ Number of words in which the same vowel occurs consecutively exactly once

6406532237851. ✔ Number of words in which the same vowel occurs consecutively at least once

6406532237852. ✖ Number of words in which the same vowel occurs consecutively exactly twice

6406532237853. ✖ Number of words in which the same vowel occurs consecutively at least twice

Sub-Section Number : 5

Sub-Section Id : 64065394973

Question Shuffling Allowed : Yes

Is Section Default? : null

Question Number : 9 Question Id : 640653667800 Question Type : MSQ Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Correct Marks : 2 Max. Selectable Options : 0

Question Label : Multiple Select Question

Swara has used a variable max to find the maximum total score using "Scores" dataset. There are many ways to initialize max, choose the correct option(s). It is a Multiple Select Question (MSQ).

Options :

6406532237801. ✔ Pick any random card X from the dataset and max = X.*Total*

6406532237802. ✔ Pick the top card X from the dataset and max = X.*Total*

6406532237803. ✔ Initialize max with any value less than the possible minimum total score

6406532237804. ✖ Initialize max with any value greater than the possible maximum total score

Sub-Section Number : 6

Sub-Section Id : 64065394974

Question Shuffling Allowed : Yes

Is Section Default? : null

Question Number : 10 Question Id : 640653667804 Question Type : MSQ Is Question

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

Correct Marks : 4 Max. Selectable Options : 0

Question Label : Multiple Select Question

The given pseudocode is executed using the "Scores" dataset. There is a hypothesis that if a student performs well overall (i.e., scores at least total 180 marks), then he/she must have performed well in all the subjects (i.e., scored at least 60 marks in each subject). At the end of execution, **fracTrue** stores the fraction of students who satisfy this hypothesis. Choose the correct code fragment(s). It is a Multiple Select Question (MSQ).

```
countOverall = 0, countPerSub = 0
while (Table 1 has more rows) {
    Read the first row X in Table 1
    if (X.Total ≥ 180) {
        **********************
        *      Fill the code      *
        **********************
    }
    Move X to Table 2
}

fracTrue = countPerSub / countOverall
```

Options :

6406532237817. ✔

```
countOverall = countOverall + 1
if (X.Physics ≥ 60 and X.Chemistry ≥ 60 and X.Mathematics ≥ 60) {
    countPerSub = countPerSub + 1
}
```

6406532237818. ✔

```
if (X.Physics ≥ 60 and X.Chemistry ≥ 60 and X.Mathematics ≥ 60) {
    countPerSub = countPerSub + 1
}
countOverall = countOverall + 1
```

6406532237819. ✖

```
if (X.Physics ≥ 60 and X.Chemistry ≥ 60 and X.Mathematics ≥ 60) {
    countOverall = countOverall + 1
    countPerSub = countPerSub + 1
}
```

```
if (X.Physics ≥ 60 and X.Chemistry ≥ 60 and X.Mathematics ≥ 60) {
    countOverall = countOverall + 1
}
countPerSub = countPerSub + 1
```

6406532237820. ✖

Question Number : 11 Question Id : 640653667805 Question Type : MSQ Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Correct Marks : 4 Max. Selectable Options : 0

Question Label : Multiple Select Question

The following pseudocode is executed using the "Words" dataset. At the end of execution, count stores the number of pairs of consecutive words which have equal number of vowels? Choose the correct option(s). It is a Multiple Select Question (MSQ).

```
count = 0
while (Table 1 has at least two rows) {
    Read the first row X from Table 1
    countVx = countSomething(X)
    Move X to Table 2
    Read the first row Y from Table 1
    countVy = countSomething(Y)
    if (countVx == countVy) {
        count = count + 1
    }
}
Procedure countSomething(Z)
    i = 1
    A = 0
    while (i ≤ Z.LetterCount) {
        if (i^th letter of Z.Word is vowel) {
            A = A + 1
        }
    }
    return (A)
End countSomething
```

Options :

The above pseudocode will not provide the correct result because Table 2 must be restored to Table 1.

6406532237821. ✖

6406532237822. ✖

The above pseudocode will not provide the correct result because card **Y** is not being moved to anywhere.

6406532237823. ✖ The above pseudocode will not provide the correct result because the last word is not being compared.

6406532237824. ✔ The above pseudocode will provide the correct result.

Question Number : 12 Question Id : 640653667806 Question Type : MSQ Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Correct Marks : 4 Max. Selectable Options : 0

Question Label : Multiple Select Question

The following pseudocode is executed using the "Shopping Bills" dataset. At the end of execution, **A** captures the highest "Price" of an item purchased from "Big Bazaar". But the pseudocode may have mistakes in one or more lines. Identify all such lines (if any). Assume that all statements not listed in the options below are free of errors. It is a Multiple Select Question (MSQ).

```
1   A = 0
2   while (Pile 1 has more cards) {
3       Read the top card X in Pile 1
4       if (X.ShopName == "Big Bazaar") {
5           temp = findItem(X)
6           if (temp > A) {
7               A = temp
8           }
9       }
10      Move X to Pile 2
11  }

12  Procedure findItem (Y)
13      maxPrice = 0
14      while (Card Y has more items) {
15          Read an item Z from ItemList of card Y
16          if (maxPrice ≥ Z.Price ){
17              maxPrice = Z.Price
18          }
19          Remove Z from ItemList of card Y
20      }
21      return (maxPrice)
22  End findItem
```

Options :

6406532237825. ✖ Line 5: Misplaced calling of procedure **findItem**

6406532237826. ✖ Line 6: Incorrect conditional statement

6406532237827. ✔ Line 16: Incorrect conditional statement

6406532237828. ✖ There must be a re-initialization of **maxPrice** before the return statement

6406532237829. ✖ No error

Sub-Section Number : 7

Sub-Section Id : 64065394975

Question Shuffling Allowed : No

Is Section Default? : null

Question Id : 640653667807 Question Type : COMPREHENSION Sub Question Shuffling Allowed : No Group Comprehension Questions : No Question Pattern Type : NonMatrix Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Question Numbers : (13 to 14)

Question Label : Comprehension

The given pseudocode is executed using a dataset having the same fields as the "Words" dataset, and contains the following words -

"IIT Madras has launched the world's first ever online degree and diploma courses in programming and data science. Anyone who has passed class 12^{th} examination can enrol in the online course. There are three levels in the online degree program. There are total of 31 course. The completion time is between three to six years. Learners will have to complete the online courses and assignments, quizzes and exams to gain 116 credits. The online application process for next batch is open now."

Assume that while moving the rows from one table to other, the rows are always arranged in the increasing order of sequence number from top to bottom.

```
count = 0, i = 0
while (Table 1 has more rows) {
    Read the first row X from Table 1
    if (i == 0){
        Move X to Table 2
        i = 1
    }
    else {
        Move X to Table 3
    }
    if (X.Word ends with full stop) {
        i = 0
    }
}
```

Answer the given subquestions based on the above information.

Sub questions

Question Number : 13 Question Id : 640653667808 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

Choose the set of correct words in Table 2.

Options :

6406532237830. ✔ IIT, Anyone, There, There, The, Learners, The

6406532237831. ✖ IIT, Anyone, There, The, Learners

6406532237832. ✖ science, course, program, course, years, credits, now

6406532237833. ✖ science, course, program, years, credits, now

Question Number : 14 Question Id : 640653667809 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

Consider the Table 2 created from the previous question. At the end of execution, what will the value of **countMax** and **occurMax** be?

```
countMax = 0, occurMax = "None"
while (Table 2 has more rows) {
    count = 0
    Read the first row Y from Table 2
    Move Y to Table 4
    while (Table 2 has more rows) {
        Read the first row Z from Table 2
        if (Y.Word == Z.Word) {
            count = count + 1
            Move Z to Table 4
        }
        else {
            Move Z to Table 5
        }
    }
    Move all the rows from Table 5 to Table 2
    if (count ≥ countMax) {
        countMax = count
        occurMax = Y.Word
    }
}
```

Options :

6406532237834. ✖ countMax = 1, occurMax = "The"

6406532237835. ✔ countMax = 2, occurMax = "The"

6406532237836. ✖ countMax = 1, occurMax = "There"

6406532237837. ✖ countMax = 2, occurMax = "There"

Sub-Section Number : 8

Sub-Section Id : 64065394976

Question Shuffling Allowed : No

Is Section Default? : null

Question Id : 640653667811 Question Type : COMPREHENSION Sub Question Shuffling Allowed : No Group Comprehension Questions : No Question Pattern Type : NonMatrix Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Question Numbers : (15 to 16)

Question Label : Comprehension

The following pseudocode is executed using the "Library" dataset.
Assume that an author publishes at least two books, and only one in a year.

```
Count = 0, max = 0
while (Table 1 has more rows) {
    Read the first row X from Table 1
    Move the row X to Table 2
    while (Table 1 has more rows) {
        Read the first row Y from Table 1
        if (X.Author == Y.Author) {
            Move the row Y to Table 2
        }
        else {
            Move the row Y to Table 3
        }
    }
    Diff = doSomething(Table 2)
    if (Diff == max) {
        Count = Count + 1
    }
    if (Diff > max){
        max = Diff
        Count = 1
    }
    Delete all the rows from Table 2
    Move all the rows from Table 3 to Table 1
}

Procedure doSomething(Table 2)
    A = 2050, B = 2050
    while (Table 2 has more rows) {
        Read the first row Z  from Table 2
        if (Z.Year < A) {
            B = A
            A = Z.Year
        }
        if (Z.Year > A and Z.Year < B) {
            B = Z.Year
        }
        Move the row Z to Table 4
    }
    return((B - A))
End doSomething
```

Based on the above data, answer the given subquestion.

Sub questions

Question Number : 15 Question Id : 640653667812 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

What will procedure **doSomething** return?

Options :

6406532237842. ✔ Difference between year of publication of first and second book of the same author

6406532237843. ✖ Difference between year of publication of first and second book of the different author

6406532237844. ✖ Difference between year of publication of latest and second latest book of the same author

6406532237845. ✖ Difference between year of publication of latest and second latest book of the different author

Question Number : 16 Question Id : 640653667813 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

What will **Count** represent at the end of execution?

Options :

6406532237846. ✔ Number of authors with maximum gap between year of publication of first and second book

6406532237847. ✖ Number of authors with minimum gap between year of publication of first and second book

6406532237848. ✖ Number of authors with maximum gap between year of publication of latest and second latest book

6406532237849. ✖ Number of authors with minimum gap between year of publication of latest and second latest book

Sem1 English1

Section Id :	64065344872
Section Number :	2
Section type :	Online
Mandatory or Optional :	Mandatory
Number of Questions :	25
Number of Questions to be attempted :	25
Section Marks :	50
Display Number Panel :	Yes
Section Negative Marks :	0
Group All Questions :	No
Enable Mark as Answered Mark for Review and Clear Response :	Yes
Maximum Instruction Time :	0
Sub-Section Number :	1
Sub-Section Id :	64065394977
Question Shuffling Allowed :	No
Is Section Default? :	null

Question Number : 17 Question Id : 640653667815 Question Type : MCQ Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction