Notations :

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

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

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

CT

Section Id :	640653140963
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
Section Maximum Duration :	0
Section Minimum Duration :	0
Section Time In :	Minutes
Maximum Instruction Time :	0
Sub-Section Number :	1
Sub-Section Id :	640653396044
Question Shuffling Allowed :	No

Question Number : 1 Question Id : 6406532158135 Question Type : MCQ

Correct Marks : 0

Question Label : Multiple Choice Question

THIS IS QUESTION PAPER FOR THE SUBJECT "FOUNDATION LEVEL : 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 :

6406537020572. ✔ Yes

6406537020573. ✖ No

Question Number : 2 Question Id : 6406532158136 Question Type : MCQ

Correct Marks : 0

Question Label : Multiple Choice Question

Scores

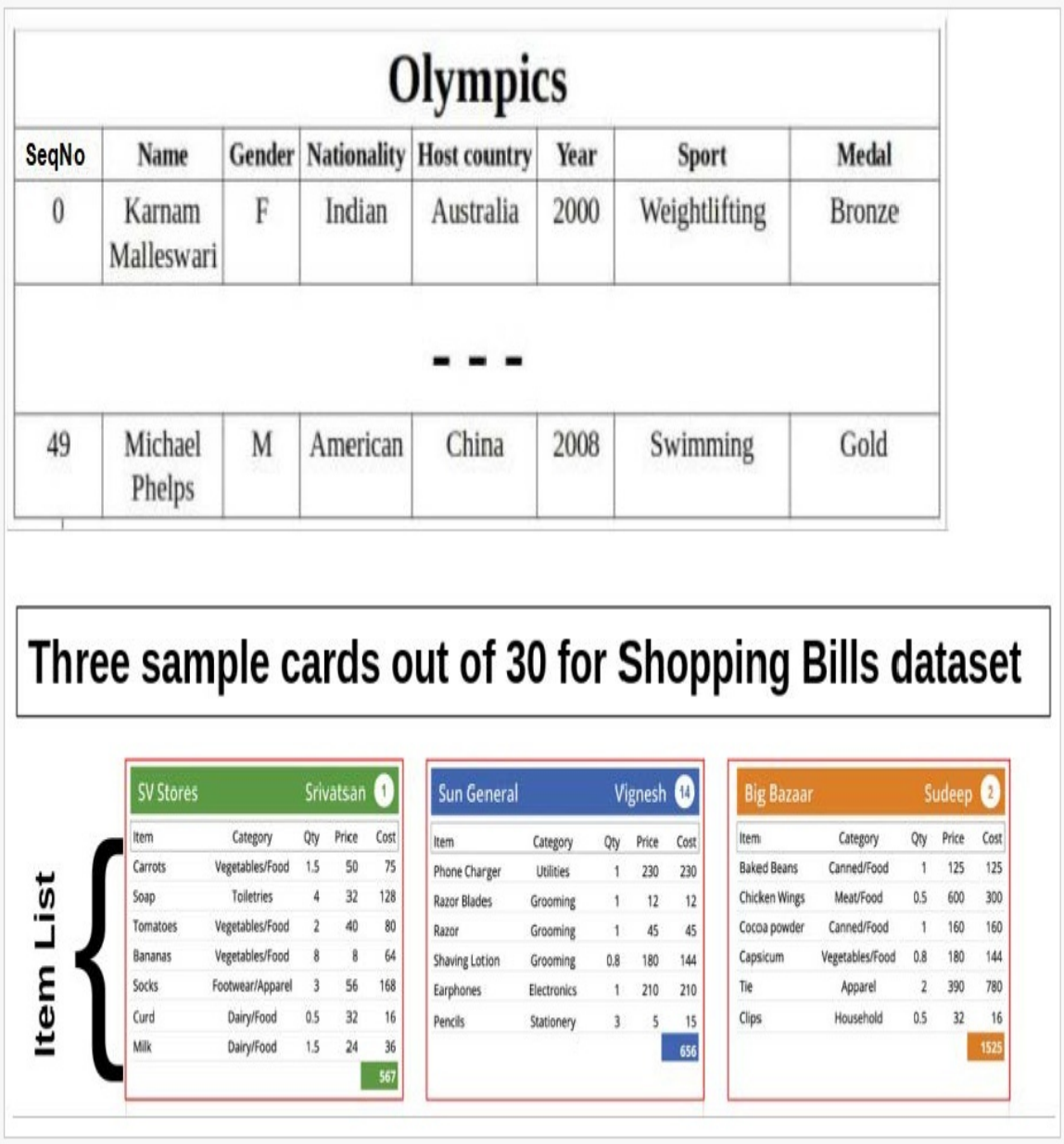
SeqNo	Name	Gender	DateOfBirth	TownCity	Mathematics	Physics	Chemistry	Total
0	Bhuvanesh	M	7 Nov	Erode	68	64	78	210
■ ■ ■								
29	Naveen	M	13 Oct	Vellore	72	66	81	219

Words

SeqNo	Word	PartOfSpeech	LetterCount
0	It	Pronoun	2
■ ■ ■			
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

SV Stores — Srivatsan 1

Item	Category	Qty	Price	Cost
Carrots	Vegetables/Food	1.5	50	75
Soap	Toiletries	4	32	128
Tomatoes	Vegetables/Food	2	40	80
Bananas	Vegetables/Food	8	8	64
Socks	Footwear/Apparel	3	56	168
Curd	Dairy/Food	0.5	32	16
Milk	Dairy/Food	1.5	24	36
				567

Sun General — Vignesh 14

Item	Category	Qty	Price	Cost
Phone Charger	Utilities	1	230	230
Razor Blades	Grooming	1	12	12
Razor	Grooming	1	45	45
Shaving Lotion	Grooming	0.8	180	144
Earphones	Electronics	1	210	210
Pencils	Stationery	3	5	15
				656

Big Bazaar — Sudeep 2

Item	Category	Qty	Price	Cost
Baked Beans	Canned/Food	1	125	125
Chicken Wings	Meat/Food	0.5	600	300
Cocoa powder	Canned/Food	1	160	160
Capsicum	Vegetables/Food	0.8	180	144
Tie	Apparel	2	390	780
Clips	Household	0.5	32	16
				1525

Options :

6406537020574. ✔ Useful Data has been mentioned above.

6406537020575. ✖ This data attachment is just for a reference & not for an evaluation.

Sub-Section Number : 2

Sub-Section Id : 640653396045

Question Shuffling Allowed : Yes

Question Number : 3 Question Id : 6406532158137 Question Type : MCQ

Correct Marks : 5

Question Label : Multiple Choice Question

The following pseudocode is executed using the **Word** dataset. What will count represent at the end of the execution?

```
count = 0
while(Table 1 has more rows){
    flag1 = False, flag2 = False
    Read the first row X in Table 1
    if(X.PartOfSpeech == "Noun"){
        flag1 = True
    }
    if(X.LetterCount >= 4){
        flag2 = True
    }
    if(flag1 and flag2){
        count = count + 1
    }
    Move X to Table 2
}
```

Options :

6406537020576. ✖ Number of words which are nouns and have at most four letters

6406537020577. ✖ Number of words which are either not nouns or have at least four letters but not both

6406537020578. ✖ Number of words which are either nouns or have at most four letters or both

6406537020579. ✔ Number of words which are nouns and have at least four letters

Question Number : 4 Question Id : 6406532158139 Question Type : MCQ

Correct Marks : 5

Question Label : Multiple Choice Question

The following pseudocode is executed on the **"Library"** dataset. What will **count** represent after the pseudocode below is executed?

```
count = 0
while(Table 1 has more rows){
    Read the first row X in Table 1
    Move X to Table 2
    while(Table 1 has more rows){
        Read the first row Y in Table 1
        if(verifyPair(X, Y)) {
            count = count + 1
        }
        Move Y to Table 3
    }
    Move all rows from Table 3 to Table 1
}


Procedure verifyPair(X, Y)
    if(X.Author != Y.Author and X.Language == Y.Language){
        return True
    }
    else{
        return False
    }
End verifyPair
```

Options :

6406537020584. ✔ Number of book pairs that have different authors but are written in the same language

6406537020585. ✖ Number of book pairs that have different authors and languages

6406537020586. ✖ Number of book pairs that have the same author but are in different languages

6406537020587. ✖ Number of book pairs that have same author and are in the same language

Question Number : 5 Question Id : 6406532158145 Question Type : MCQ

Correct Marks : 5

Question Label : Multiple Choice Question

Statement

The following pseudocode is executed using the "Words" dataset. At the end of the execution, **count** stores the number of pairs of verbs such that both verbs have either different letter counts or both end with a full stop. Choose the correct code fragment to complete the pseudocode.

```
count = 0
while(Table 1 has more rows){
        Read the first row X in Table 1
        Move X to Table 2
    if(***Statement 1***){
                while(Table 1 has more rows){
                        Read the first row Y in Table 1
                        Move Y to Table 3
                if(***Statement 2***){
                if(X.LetterCount != Y.LetterCount){
                        count = count + 1
                }
                else{
                        if(***Statement 3***){
                        count = count + 1
                        }
                }
                }
                }
                Move all rows from Table 3 to Table 1
    }
}
```

Options :

6406537020605. ✔ Statement 1: **X**.PartOfSpeech == "Verb"
Statement 2: **X**.PartOfSpeech == **Y**.PartOfSpeech
Statement 3: **X**.Word and **Y**.Word end with a full stop

6406537020606. ✖ Statement 1: **X**.PartOfSpeech == **Y**.PartOfSpeech
Statement 2: **X**.PartOfSpeech == "Verb"
Statement 3: **X**.Word and **Y**.Word end with a full stop

6406537020607. ✖ Statement 1: **X**.PartOfSpeech == "Verb"
Statement 2: **X**.Word and **Y**.Word end with a full stop
Statement 3: **X**.PartOfSpeech == **Y**.PartOfSpeech

6406537020608. ✖ Statement 1: **X**.Word and **Y**.Word end with a full stop
Statement 2: **X**.PartOfSpeech == **Y**.PartOfSpeech
Statement 3: **X**.PartOfSpeech == "Verb"

Sub-Section Number :	3
Sub-Section Id :	640653396046
Question Shuffling Allowed :	Yes

Question Number : 6 Question Id : 6406532158138 Question Type : MCQ
Correct Marks : 3

Question Label : Multiple Choice Question

Match the following expressions in the **Column 1** with the appropriate values in **Column 2**.

Column 1	Column 2
a. 3 = 3 and 3 > 4	1. False
b. 3 == 3 or 2 > 3	2. True
c. 2 == 2 and 2 > 3	3. Invalid expression
d. 3 + '3'	4. 4
e. 2 >=2	5. "33"

Options :

6406537020580. ✖ a - (3), b - (2), c - (2), d - (5), e - (3)

6406537020581. ✖ a - (1), b - (3), c - (2), d - (1), e - (2)

6406537020582. ✔ a - (3), b - (2), c - (1), d - (3), e - (2)

6406537020583. ✖ a - (1), b - (3), c - (2), d - (1), e - (1)

Question Number : 7 Question Id : 6406532158140 Question Type : MCQ
Correct Marks : 3

Question Label : Multiple Choice Question

The following pseudocode is executed using the **"Scores"** dataset.

```
A = 0, B = 0
while(Table 1 has more rows){
    Read the first row X from Table 1
    Flag = False
    if(X.Gender == 'M' and X.Total < 250){
        Flag = True
    }
    if(not Flag){
        A = A + 1
        if(X.Total < 250){
            B = B + 1
        }
    }
    Move X to Table 2
}
```

Which of the following statements is correct?

Options :

6406537020588. ✖ **A** represents the number of female students whose total marks are at least 250.

6406537020589. ✔ **B** represents the number of female students whose total marks are less than 250.

6406537020590. ✖ **B** represents the number of students whose total marks are less than 250.

6406537020591. ✖ **A** represents number of male students whose total marks are at most 250..

Sub-Section Number : 4

Sub-Section Id : 640653396047

Question Shuffling Allowed : Yes

Question Number : 8 Question Id : 6406532158141 Question Type : MSQ

Correct Marks : 5 Max. Selectable Options : 0

Question Label : Multiple Select Question

The following pseudocode is executed using the **Shopping Bills** dataset. At the end of the execution, **A** captures the lowest price across all items 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.

```
1 A = 100
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
13 Procedure findItem(Y)
14    minPrice = 0
15    while(Card Y has more items){
16        Read an item Z from ItemList of card Y
17        if(minPrice > Z.Price ){
18              minPrice = Z.Price
19        }
20        Remove Z from ItemList of card Y
21    }
22    return(minPrice)
23 End findItem
```

Options :

6406537020592. ✖ Line 1: Incorrect initialization of ***A***

6406537020593. ✔ Line 6: Incorrect conditional statement

6406537020594. ✔ Line 14: Incorrect initialization of ***minPrice***

6406537020595. ✖ Line 17: Incorrect conditional statement

Sub-Section Number : 5

Sub-Section Id : 640653396048

Question Shuffling Allowed : Yes

Question Number : 9 Question Id : 6406532158142 Question Type : SA Keyboard Layout : Inscript

Correct Marks : 4

Question Label : Short Answer Question

Statement

The following pseudocode is executed using a dataset similar to the "Words" dataset, based on the following paragraph.

"Mountains often appear calm from a distance, hiding their rugged terrain. Moments of reflection help people understand themselves better. The evening breeze carried the scent of flowers across the valley. Morning walks encouraged Rahul to maintain a healthy routine. Birds chirped softly as the sun rose above the horizon."

```
count = 0, flag = True
while(Table 1 has more rows){
    Read the first row X in Table 1
    Move X to Table 2
    if(flag){
        if(1st letter of X.Word == 'm'){
            if(2nd letter of X.Word == 'o'){
                count = count + 1
            }
        }
    }
    flag = False
    if(X.Word ends with full stop){
        flag = True
    }
}
```

What would be the value of **count** at the end of the execution of the pseudocode above ? Assume that upper case and lower case are ignored during comparison of letters.

Response Type : Numeric

Evaluation Required For SA : Yes

Show Word Count : Yes

Answers Type : Equal

Text Areas : PlainText

Possible Answers :

3

Sub-Section Number : 6

Sub-Section Id : 640653396049

Question Shuffling Allowed : Yes

Question Number : 10 Question Id : 6406532158143 Question Type : MCQ

Correct Marks : 4

Question Label : Multiple Choice Question

Statement

The following pseudocode is executed using the “Scores” dataset. What will **A** represent at the end of the execution?

```
A = 0
while(Pile 1 has more cards){
    Read the top card X from Pile 1
    A = A + isInSeq(X)
    Move X to Pile 2
}


Procedure isInSeq(X)
    if(X.Physics > X.Mathematics){
        if(X.Chemistry < X.Physics){
            return(1)
        }
    }
        return(0)
End isInSeq
```

Options :

6406537020597. ✔ Number of students with highest marks in Physics among the three subjects

6406537020598. ✖ Number of students with highest marks in Physics and lowest marks in Mathematics

6406537020599. ✖ Number of students with highest marks in Chemistry among the three subjects

6406537020600. ✖ Number of students with lowest marks in Mathematics among the three subjects

Question Number : 11 Question Id : 6406532158144 Question Type : MCQ

Correct Marks : 4

Question Label : Multiple Choice Question

Statement

The following pseudocode is executed using the “Olympics” dataset. Procedure **doSomething** accepts a table where all rows belong to the same player. Assume that the player has won at least two medals and only one medal in any year. At the end of the execution, if (**B - A**) represents year the gap between first and second medals won by a player then, choose the correct code fragment to complete the pseudocode.

```
Procedure doSomething(Table T1)
        A = 2030, B = 2030
        while(Table T1 has more rows){
                Read the first row Z from Table T1
                ****************************
        ***Fill the code****
        ****************************
                Move the row Z to Table T2
        }
        return((B - A))
End doSomething
```

Options :

```
if(Z.Year < A){
        B = A
        A = Z.Year
}
if(Z.Year > A and Z.Year < B){
        B = Z.Year
}
```

6406537020601. ✔

```
if(Z.Year < A){
        B = A
}
if(Z.Year > A and Z.Year < B){
        B = Z.Year
}
```

6406537020602. ✖

```
if(Z.Year < A){
        B = A
        A = Z.Year
}
if(Z.Year < A and Z.Year > B){
        B = Z.Year
}
```

6406537020603. ✖

6406537020604. ✖

```
if(Z.Year < A){
        A = Z.Year
}
if(Z.Year > B){
        B = Z.Year
}
```

Question Number : 12 Question Id : 6406532158147 Question Type : MCQ

Correct Marks : 4

Question Label : Multiple Choice Question

Statement

The following procedure is executed using "Words" dataset. What will **A** represent at the end of the execution?

Step 1. Arrange all cards in a single pile called Pile 1
Step 2. Maintain two variables **A**, **B** and initialize them to 0
Step 3. If Pile 1 is empty then stop the iteration
Step 4. Read the top card in Pile 1
Step 5. Increment variable **B**
Step 6. If Word does not end with a full stop then execute step 9
Step 7. If Word ends with a full stop and **B > A** then store **B** in **A**
Step 8. Re-initialize the variable **B** to 0
Step 9. Move the current card to another pile called Pile 2 and repeat from step 3

Options :

6406537020614. ✖ Length of the shortest sentence based on the number of words

6406537020615. ✔ Length of the longest sentence based on the number of words

6406537020616. ✖ Length of the longest sentence based on the number of letters

6406537020617. ✖ Length of the shortest sentence based on the number of letters

Question Number : 13 Question Id : 6406532158148 Question Type : MCQ

Correct Marks : 4

Question Label : Multiple Choice Question

Statement

A pair of words is said to be special if it fulfills following conditions:

The number of vowels are the same in both words and the number of consonants are not the same in both words.

The given pseudocode is executed using the "**Words**" dataset. The variable **count** in the given pseudocode counts the number of special pairs. Choose the correct code fragment to complete

the pseudocode.

```
count = 0
while(Table 1 has more rows){
    Read the first row X in Table 1
    Move X to Table 2
    while(Table 1 has more rows){
        Read the first row Y in Table 1
         **********************
         Fill here
         **********************
         Move Y to Table 3
     }
    Move all rows from Table 3 to Table 1
}
Procedure vCount(Z)
vowelCount = 0, i = 1
while(i <= Z.LetterCount){
    if(ith letter of Z.Word is a vowel){
    vowelCount = vowelCount + 1
    }
    i = i + 1
}
return(vowelCount)
End vCount
```

Options :

```
if(X.LetterCount == Y.LetterCount){
    if(vCount(X) == vCount(Y)){
        count = count + 1
    }
}
```

6406537020618. ✖

```
if(X.LetterCount != Y.LetterCount){
    if(vCount(X) == vCount(Y)){
        count = count + 1
    }
}
```

6406537020619. ✔

6406537020620. ✖

```
if(X.LetterCount == Y.LetterCount){
    if(vCount(X) != vCount(Y)){
        count = count + 1
    }
}
```

```
if(X.LetterCount != Y.LetterCount){
    if(vCount(X) != vCount(Y)){
        count = count + 1
    }
}
```

6406537020621. ✖

Sub-Section Number : 7
Sub-Section Id : 640653396050
Question Shuffling Allowed : Yes

Question Number : 14 Question Id : 6406532158146 Question Type : MSQ
Correct Marks : 4 Max. Selectable Options : 0
Question Label : Multiple Select Question
Statement

A student proposed a hypothesis that fewer students are born in the first half of the year than the second half of the year. She wrote the following procedure which uses the “Scores” dataset to verify the hypothesis. However, the procedure may contain some errors. Find out the errors if present.

Step 1: Arrange all cards in a single pile called Pile 1
Step 2: Maintain two variables **A** and **B** and initialize them to 0
Step 3: If Pile 1 is empty then stop the iteration and start from Step 8
Step 4: Read the top card in Pile 1
Step 5: If the Date of Birth is from 1st January to 30th June then increment **A**
Step 6: If the Date of Birth is from 1st July to 31st December then increment **B**
Step 7: Move the current card to another pile called Pile 2 and repeat from Step 3
Step 8: If **A > B** then declare the hypothesis to be True
Step 9: If **A ≤ B** then declare the hypothesis to be False

Options :

6406537020609. ✖ Step 5 to increment A is incorrect

6406537020610. ✖ Step 6 to increment B is incorrect

6406537020611. ✔ Step 8 to declare the hypothesis as True is incorrect

6406537020612. ✔ Step 9 to declare the hypothesis as False is incorrect

6406537020613. ✖ The procedure is free of errors