

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

Group I

Group Number :	1
Group Id :	64065318433
Group Maximum Duration :	0
Group Minimum Duration :	90
Show Attended Group? :	No
Edit Attended Group? :	No
Break time :	0
Group Marks :	984
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

Section Id :	64065356686
Section Number :	1
Section type :	Online
Mandatory or Optional :	Mandatory
Number of Questions :	18
Number of Questions to be attempted :	18
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 :	640653118876
Question Shuffling Allowed :	No
Is Section Default? :	null

Question Number : 1 Question Id : 640653815842 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 II:
INTRODUCTION TO PYTHON (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 :

6406532732981. ✔ YES

6406532732982. ✖ NO

Question Number : 2 Question Id : 640653815843 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

Useful Data

Presentation

There are two types of blocks that you would see in all the questions:

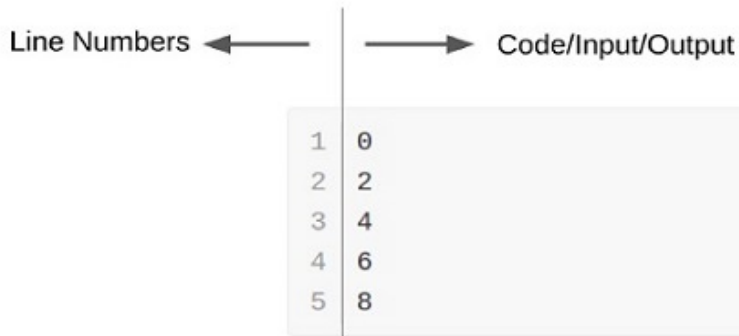
Code

```
1 for x in range(10):
2     if x % 2 == 0:
3         print(x)
```

Input or Output

```
1 0
2 2
3 4
4 6
5 8
```

In both the blocks, please note that the region to the left of the thin vertical line — | — corresponds to line-numbers. Do not confuse the line numbers with the content of the code or the input-output. Just to be clear:



Useful information

range

Sample behaviour of the `range` function:

- `range(5)` corresponds to the sequence 0, 1, 2, 3, 4
- `range(1, 5)` corresponds to the sequence 1, 2, 3, 4
- `range(1, 1)` is the empty sequence

// operator

`//` is the floor division operator. `5 // 2` is 2 and *not* 2.5

NAT → integer

For all NAT questions in this exam, the answer will always be an integer and not a float value. If the answer to a question is 18, then just enter that value. Do *not* enter 18.0.

Options :

6406532732983. ✓ Useful Data has been mentioned above.

6406532732984. ✗ This data attachment is just for a reference & not for an evaluation.

Sub-Section Number :

2

Sub-Section Id :

640653118877

Question Shuffling Allowed :

Yes

Is Section Default? :

null

Question Number : 3 Question Id : 640653815844 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 output of the following snippet of code?

```
1 def some_fun(L):
2     if len(L) == 1:
3         return L
4     if L[0] in L[1:]:
5         return some_fun(L[1:])
6     return [L[0]] + some_fun(L[1:])
7
8 print(some_fun([1, 5, 4, 3, 2, 1, 3, 2, 4, 3, 5, 7]))
```

Options :

6406532732985. ✓

1 | [1, 2, 4, 3, 5, 7]

6406532732986. ✖

1 | [1, 5, 4, 3, 2, 7]

6406532732987. ✖

1 | [1, 2, 3, 4, 5, 7]

6406532732988. ✖

1 | [7, 5, 4, 3, 2, 1]

Question Number : 4 Question Id : 640653815845 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

`check_cooling` is a method of the class `AirConditioner` that updates the attribute `cooling_required` to the Boolean literal `True` if the attribute `current_temperature` is above 28 degrees Celsius, indicating that cooling is required, and `False` otherwise. Select the correct implementation of this method.

Options :

```
1 def check_cooling(self):
2     if self.current_temperature > 28:
3         self.cooling_required = True
4     else:
5         self.cooling_required = False
```

6406532732989. ✓

```
1 def check_cooling():
2     if self.current_temperature > 28:
3         self.cooling_required = True
4     else:
5         self.cooling_required = False
```

6406532732990. ✗

```
1 def check_cooling(self):
2     if current_temperature > 28:
3         self.cooling_required = True
4     else:
5         self.cooling_required = False
```

6406532732991. ✗

```
1 def check_cooling(self):
2     if self.current_temperature >= 28:
3         cooling_required = True
4     else:
5         cooling_required = False
```

6406532732992. ✗

Question Number : 5 Question Id : 640653815846 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 output of the following snippet of code?

```
1 | L = [x ** 2 if x % 2 == 0 else 2 * x for x in range(1, 11)]
2 | print(L)
```

Options :

6406532732993. ✓

1 | [2, 4, 6, 16, 10, 36, 14, 64, 18, 100]

6406532732994. ✖

1 | [1, 4, 9, 8, 25, 12, 49, 16, 81, 20]

6406532732995. ✖

1 | [1, 4, 9, 16, 25, 36, 49, 64, 81, 100]

6406532732996. ✖

1 | [2, 4, 6, 8, 10, 12, 14, 16, 18, 20]

Question Number : 6 Question Id : 640653815847 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

Consider the code given below.

```
1 f = open('output.txt', 'w')
2 f.write('apple')
3 f.write('banana')
4 f.write('cat')
5 f.write('dog')
6 f.write('elephant')
7 f.close()
```

What is the content present in the file `output.txt` after the execution of the above code?

Options :

6406532732997. ✓

1 | applebananaecatdogelephant

6406532732998. ✖

1 | apple banana cat dog elephant

6406532732999. ✖

```
1 | apple
2 |
3 | banana
4 |
5 | cat
6 |
7 | dog
8 |
9 | elephant
```

6406532733000. ✖

```
1 | apple
2 | banana
3 | cat
4 | dog
5 | elephant
```

Question Number : 7 Question Id : 640653815848 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 library maintains a database of book records in the form of a list of dictionaries. Each dictionary represents a book and contains the following keys:

- `title`
- `author`
- `pages`

The database is stored in the list `records`. A sample database is given below.

```
1 records = [  
2     {'title': '1984', 'author': 'George Orwell', 'pages': 328},  
3     {'title': 'To Kill a Mockingbird', 'author': 'Harper Lee', 'pages': 281},  
4     {'title': 'Pride and Prejudice', 'author': 'Jane Austen', 'pages': 279},  
5     {'title': 'The Catcher in the Rye', 'author': 'J.D. Salinger', 'pages':  
6     277},  
7     {'title': 'The Great Gatsby', 'author': 'F. Scott Fitzgerald', 'pages': 180}  
8 ]
```

Write a function named `get_longest_book` that accepts the list `records` as argument and retrieves the book with the most pages from the database. The function should **return a dictionary** containing the details of the longest book. You can assume that the longest book is unique, that is, there is exactly one book with the most number of pages in the list.

Snippet-1

```
1 def get_longest_book(records):  
2     max_pages = 0  
3     for record in records:  
4         if record['pages'] > max_pages:  
5             max_pages = record['pages']  
6     return max_pages
```

Snippet-2

```
1 def get_longest_book(records):  
2     max_pages = 0  
3     for record in records:  
4         if record['pages'] > max_pages:  
5             max_pages = record['pages']  
6     for record in records:  
7         if record['pages'] == max_pages:  
8             return record
```

Options :

6406532733001. ✖ Only snippet-1 is correct

6406532733002. ✔ Only snippet-2 is correct

6406532733003. ✖ Both snippets 1 and 2 are correct

6406532733004. ✖ Both snippets 1 and 2 are incorrect

Question Number : 8 Question Id : 640653815849 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 output of the following snippet of code?

```
1 A = {1, 2, 3, 5, 9, 11, 15, 18, 24}
2 B = {2, 4, 5, 7, 8, 15, 25, 30}
3 C = set()
4 for x in A:
5     C.add(x)
6 for x in B:
7     if x in C:
8         C.remove(x)
9 print(C)
```

Options :

6406532733005. ✔ 1 {1, 3, 9, 11, 18, 24}

6406532733006. ✖ 1 {4, 7, 8, 25, 30}

6406532733007. ✖ 1 {1, 2, 3, 4, 5, 7, 8, 9, 11, 15, 18, 24, 25, 30}

6406532733008.



```
1 | {2, 5, 15}
```

Sub-Section Number : 3
Sub-Section Id : 640653118878
Question Shuffling Allowed : Yes
Is Section Default? : null

Question Number : 9 Question Id : 640653815850 Question Type : MSQ Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Correct Marks : 3 Max. Selectable Options : 0

Question Label : Multiple Select Question

Consider the following snippets of code:

Code-1

```
1 | L = [1, 2, 3]
2 | L.append(4)
```

Code-2

```
1 | T = (1, 2, 3)
2 | T[0] = 4
```

Code-3

```
1 | D = {'one': 1}
2 | print(D['one'])
```

Select all true statements.

Options :

6406532733009. ✖ Code-1 will throw an error in line-2

6406532733010. ✖ Code-2 will throw an error in line-1

6406532733011. ✓ Code-2 will throw an error in line-2

6406532733012. ✖ Code-2 will run without any error

6406532733013. ✓ Code-3 will run without any error

Question Number : 10 Question Id : 640653815852 Question Type : MSQ Is Question Mandatory : No Calculator : None Response Time : N.A Think Time : N.A Minimum Instruction Time : 0

Correct Marks : 3 Max. Selectable Options : 0

Question Label : Multiple Select Question

Consider the function `fun` defined below that accepts a square matrix as argument and returns a Boolean value.

```
1 def fun(M):
2     n = len(M)
3     for i in range(n):
4         for j in range(n):
5             if i != j and M[i][j] != 0:
6                 return False
7             if i == j and M[i][j] != M[0][0]:
8                 return False
9     return True
```

Select all matrices for which the function returns the value `True`.

Options :

6406532733018. ✓

1 | `[[2, 0, 0], [0, 2, 0], [0, 0, 2]]`

6406532733019. ✓

1 | `[[5, 0, 0, 0], [0, 5, 0, 0], [0, 0, 5, 0], [0, 0, 0, 5]]`

6406532733020. ✖

1 | `[[1, 0, 0, 0], [0, 2, 0, 0], [0, 0, 3, 0], [0, 0, 0, 4]]`

6406532733021. ✖

```
1 | [[4, 0, 0, 1], [0, 4, 1, 0], [1, 0, 4, 0], [1, 0, 0, 4]]
```

Sub-Section Number : 4
Sub-Section Id : 640653118879
Question Shuffling Allowed : Yes
Is Section Default? : null

Question Number : 11 Question Id : 640653815851 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

M is a $m \times n$ matrix with $m \neq n$. We wish to calculate the sum of each column and store the sums in a list called `col_sums`. Note that `col_sums` will have n elements. Select all correct implementations.

Options :

```
1 | m, n = len(M), len(M[0])
2 | col_sums = [sum([M[i][j] for i in range(m)]) for j in range(n)]
```

6406532733014. ✔

```
1 | m, n = len(M), len(M[0])
2 | col_sums = [ ]
3 | for j in range(n):
4 |     csum = 0
5 |     for i in range(m):
6 |         csum += M[i][j]
7 |     col_sums.append(csum)
```

6406532733015. ✔

6406532733016. ✖

```
1 m, n = len(M), len(M[0])
2 col_sums = [ ]
3 for i in range(m):
4     csum = 0
5     for j in range(n):
6         csum += M[i][j]
7     col_sums.append(csum)
```

```
1 col_sums = [sum(col) for col in M]
```

6406532733017. ✖

Sub-Section Number : 5
Sub-Section Id : 640653118880
Question Shuffling Allowed : Yes
Is Section Default? : null

Question Number : 12 Question Id : 640653815853 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

What is the output of the following snippet of code?

```
1 def calculate(m, n):
2     if n == 1:
3         return m
4     return m + calculate(m, n - 1)
5
6 c1 = calculate(3, 2)
7 c2 = calculate(4, 3)
8 c3 = calculate(5, 4)
9 print(c1 + c2 + c3)
```

Response Type : Numeric
Evaluation Required For SA : Yes
Show Word Count : Yes

Answers Type : Equal

Text Areas : PlainText

Possible Answers :

38

Question Number : 13 **Question Id :** 640653815854 **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

What is the output of the following snippet of code?

```
1  L = [300, 252, 114, 65, 40, 22, 12]
2  n = len(L)
3
4  flag_1, flag_2 = True, True
5  for i in range(1, n):
6      if L[i] > L[i - 1]:
7          flag_2 = False
8      elif L[i] < L[i - 1]:
9          flag_1 = False
10
11 if flag_1:
12     print(1)
13 elif flag_2:
14     print(2)
15 else:
16     print(3)
```

Response Type : Numeric

Evaluation Required For SA : Yes

Show Word Count : Yes

Answers Type : Equal

Text Areas : PlainText

Possible Answers :

2

Question Number : 14 Question Id : 640653815856 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

What is the output of the following snippet of code?

```
1 def f_1(P, Q):
2     return len(P) == len(Q)
3
4 def f_2(P, Q):
5     return sum([P[i] * Q[i] for i in range(len(P))])
6
7 def f_3(P, Q):
8     return f_2(P, Q) == 0
9
10 collection = [[1, 0, -1], [0, 1, 0], [-1, 0, -1],
11               [0, 1, 0, 0], [0, 1, 1, 0, 0, 0]]
12
13 count = 0
14 for P in collection:
15     for Q in collection:
16         if f_1(P, Q):
17             if f_3(P, Q):
18                 count += 1
19
20 print(count)
```

Response Type : Numeric

Evaluation Required For SA : Yes

Show Word Count : Yes

Answers Type : Equal

Text Areas : PlainText

Possible Answers :

6

Question Number : 15 Question Id : 640653815857 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

`strings.txt` is a text file whose contents are given below:

```
1 1a
2 2b
3 3c
4 4d
5 5e
6 6f
7 7g
```

What is the output of the following snippet of code?

```
1 f = open('strings.txt', 'r')
2 count = 0
3 for line in f:
4     line = line.strip()
5     for char in line:
6         try:
7             x = int(char)
8         except ValueError:
9             count += 1
10 f.close()
11 print(count)
```

Response Type : Numeric

Evaluation Required For SA : Yes

Show Word Count : Yes

Answers Type : Equal

Text Areas : PlainText

Possible Answers :

7

Sub-Section Number : 6

Sub-Section Id : 640653118881

Question Shuffling Allowed : Yes

Is Section Default? : null

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

Correct Marks : 4

Question Label : Short Answer Question

What is the output of the following snippet of code?

```
1 words = 'five,one,three/four,two'
2
3 D = {'one': 1, 'two': 2, 'three': 3, 'four': 4, 'five': 5}
4 word = '' # empty string
5 val, index = 0, 0
6
7 while index < len(words):
8     char = words[index]
9     index += 1
10    if char == '/':
11        break
12    if char == ',':
13        val += D[word]
14        word = '' # empty string
15        continue
16    word = word + char
17
18 val += D[word]
19
20 print(val)
```

Response Type : Numeric

Evaluation Required For SA : Yes

Show Word Count : Yes

Answers Type : Equal

Text Areas : PlainText

Possible Answers :

9

Sub-Section Number :

7

Sub-Section Id :

640653118882

Question Shuffling Allowed :

No

Is Section Default? :

null

Question Id : 640653815858 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 : (17 to 18)

Question Label : Comprehension

Consider the class `Doctor` :

```
1 class Doctor:
2     def __init__(self, name, fee):
3         self.name = name
4         self.fee = fee
5
6     def print_info(self):
7         print(f'Doctor name: {self.name}')
8         print(f'Doctor fee: {self.fee}')
9
10    def change_fee(self, new_fee):
11        self.fee = new_fee
```

`Surgeon` is a sub-class of `Doctor` :

```
1 class Surgeon(Doctor):
2     count = 0
3
4     def __init__(self, name, fee, experience):
5         super().__init__(name, fee)
6         self.experience = experience
7         Surgeon.count += 1
8
9     def print_info(self):
10        super().print_info()
11        print('Surgeon is a doctor')
12        print(f'Experience: {self.experience}')
13
14    def is_experienced(self):
15        return self.experience == 'Yes'
```

Based on the above data, answer the given subquestions.

Sub questions

Question Number : 17 Question Id : 640653815859 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

What is the output of the following snippet of code?

```
1 | surgeon = Surgeon('Kian', 1000, 'Yes')
2 | surgeon.change_fee(1200)
3 | surgeon.print_info()
```

Options :

```
1 | Doctor name: Kian
2 | Doctor fee: 1000
```

6406532733027. ✖

```
1 | Doctor name: Kian
2 | Doctor fee: 1200
```

6406532733028. ✖

```
1 | Surgeon is a doctor
2 | Experience: Yes
```

6406532733029. ✖

```
1 | Doctor name: Kian
2 | Doctor fee: 1000
3 | Surgeon is a doctor
4 | Experience: Yes
```

6406532733030. ✖

```
1 | Doctor name: Kian
2 | Doctor fee: 1200
3 | Surgeon is a doctor
4 | Experience: Yes
```

6406532733031. ✔

Question Number : 18 Question Id : 640653815860 Question Type : SA Calculator : None

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

Correct Marks : 1.5

Question Label : Short Answer Question

`hospital` represents a list of objects of type `Surgeon`. What is the output of the following snippet of code?

```
1 Surgeon.count = 0
2 hospital = [Surgeon('Hari', 800, 'No'),
3             Surgeon('Pooja', 1200, 'Yes'),
4             Surgeon('Ayan', 900, 'No'),
5             Surgeon('Sindhu', 900, 'Yes'),
6             Surgeon('Mary', 1300, 'Yes')]
7
8 count = 0
9 for surgeon in hospital:
10     if surgeon.is_experienced():
11         count = count + 1
12
13 print(count)
```

Response Type : Numeric

Evaluation Required For SA : Yes

Show Word Count : Yes

Answers Type : Equal

Text Areas : PlainText

Possible Answers :

3

Question Id : 640653815861 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 : (19 to 20)

Question Label : Comprehension

Consider a csv file named `employees.csv` containing details of employees in a company. Note that the file has exactly 11 lines, and the entire file is given below for your reference:

```
1 department,name,position
2 HR,John Doe,Manager
3 Sales,Alice Smith,Sales Representative
4 IT,David Johnson,Software Engineer
5 HR,Jane Smith,HR Coordinator
6 IT,Michael Brown,Data Analyst
7 Sales,Sarah Lee,Sales Manager
8 IT,Chris Wilson,Software Engineer
9 HR,Emily Jones,Recruiter
10 Sales,Robert Garcia,Sales Associate
11 IT,Emma Taylor,Software Developer
```

Execute the following code given below and answer the questions that follow:

```
1 f = open('employees.csv', 'r')
2 f.readline() # read the header
3 employees = dict()
4 for line in f:
5     line = line.strip().split(',')
6     department, name, position = line
7     if department not in employees:
8         employees[department] = dict()
9     if name not in employees[department]:
10         employees[department][name] = position
11 f.close()
```

Based on the above data, answer the given subquestions.

Sub questions

Question Number : 19 Question Id : 640653815862 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

What is the output of the following snippet of code?

```
1 try:
2     print(employees['Finance'])
3 except FileNotFoundError:
4     print('File Not Found Error')
5 except KeyError:
6     print('Key Error')
```

Options :

1 | {'Anna': 'Software developer', 'David': 'PMO'}

6406532733033. ✖

1 | Value Error

6406532733034. ✖

1 | Key Error

6406532733035. ✔

The code will execute without throwing any error but will not print any output to the console

6406532733036. ✖

Question Number : 20 Question Id : 640653815863 Question Type : SA Calculator : None

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

Correct Marks : 1.5

Question Label : Short Answer Question

What is the output of the following snippet of code?

```
1 | print(len(employees['HR'].keys()))
```

Response Type : Numeric

Evaluation Required For SA : Yes

Show Word Count : Yes

Answers Type : Equal

Text Areas : PlainText

Possible Answers :

3

Sem1 English1

Section Id :	64065356687
Section Number :	2
Section type :	Online
Mandatory or Optional :	Mandatory
Number of Questions :	26
Number of Questions to be attempted :	26
Section Marks :	100
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 :	640653118883
Question Shuffling Allowed :	No
Is Section Default? :	null

Question Number : 21 **Question Id :** 640653815864 **Question Type :** MCQ **Is Question**

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

Correct Marks : 0