NPCI

Topics and Sample Items– Aptitude, Python, Core Java and Basics of C

Sections and Durations

Assessment	Assessment Name	Number of Questions	Duration
Assessment 1	Aptitude (Quantitative Aptitude + Reasoning Ability)	20+20	40 mins
Assessment 2	Python / Core Java / Basics of C	20	20 mins

Sample Items:

Aptitude

Q.1   Three metal cubes whose edges are 3 cm, 4 cm and 5 cm respectively are melted to form a single cube. What is the edge of this cube?

    A. 6 cm

    B. 7 cm

    C. 8 cm

    D. 9 cm

Q.2   Three different prizes have to be distributed among 4 different students. Each student could get 0 to 3 prizes. If all the prizes were distributed, then find the probability that exactly 2 students did not receive a prize.

    A. 9/16

    B. 8/18

    C. 3/19

    D. None of the mentioned options

Q.3   Determine the remainder when $(43^{101} + 23^{101})$ is divided by 66.

    A. 0

    B. 2

    C. 5

    D. 10

Q.4   Read the information given below and answer the questions that follow.

p & q = p2 - q

p % q = p / q

p ! q = (p + q) / 3

i.   Find the value of [(9 **!** 3) **&** (14 **%** 7)].

A. 12

B. 14

C. 16

D. 18

ii.   Find the value of [(17 **&** 5) **%** (8 **!** 4)].

A. 69

B. 71

C. 67

D. 73

Q.5   If in a certain code language "RUSKIN" is coded as 92, how would "NOVEL" be coded in the same code language?

A. 54

B. 64

C. 58

D. 68

Q.6   Find the missing term in the series given below.

FTJ, LON, RJR, XEY, ?

A.   YFU

B.   DZZ

C.   YFV

D.   DYZ

Q.7 The question given below is followed by two statements numbered I and II. Determine if the statements are, individually or together, sufficient to answer the question.
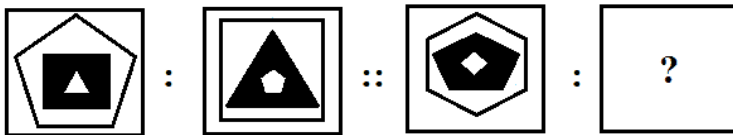
Question: Is a2 equal to ab?
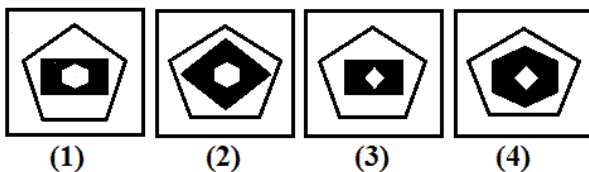
Statements:

I. a2 - b2 = (a + 5)(b - 5)

II. a = b

A. Only one of the statements, alone, is sufficient to answer the question but the other statement is not

B. Both statements I and II together are sufficient to answer the question asked but neither statement alone is sufficient

C. Each statement alone is sufficient to answer the question

D. Statements I and II together are not sufficient to answer the question asked and additional data to the problem is needed

Q.8 In the following question, choose the answer from the **Response Figure** which when put in place of the question mark would complete the relation given in the first two images of the **Problem Figure.**

Problem Figure:

Response Figure:

A. (1)

B. (2)

C. (3)

D. (4)

Python

Q. 1 Consider the code snippet given below:

```
x = [print(i) for i in test_string if i not in "aeiou"]
```

What does the following code snippet print?

A.   Prints all the vowels in test_string

B.   Prints all the consonants in test_string

C.   Prints all characters of test_string that aren't vowels

D.   None of the mentioned options

Q.2. What will be the output of the following code?

```
import re
count = 0

pattern = 'text'
if re.match(pattern, 'text.txt'):
    count += 1
if re.match(pattern, 'back.text'):
    count += 2
if re.search(pattern, 'textto.txt'):
    count += 4
if re.search(pattern, 'back.tex'):
    count += 8

print (count)
```

A.   5

B.   13

C.   14

D.   15

Q.3. What will be the output of the following code?

```
def Sum(a,b):
  try:
    c = ((a+b) / (a-b))
  except ZeroDivisionError:
    pass
  except ZeroDivisionError:
    print("Error")
  else:
```

```
     print c
```

```
Sum(2, 3)
Sum(3, 3)
```

A.   -5

B.   Error

C.   ZeroDivisionError

D.   0

Q.4. Consider the code snippet given below.

```
input()
a=map(int,raw_input().split())
m=min(a)
print(-1,'1\n'+str(a.index(m)+1))[2*m<sum(a)]
```

For which of the following sets of inputs, the above code will print -1?

Set 1:
3
1 2 1

Set 2:
2
5 5

Set 3:
1
10

A.   Only 1 and 2

B.   Only 1 and 3

C.   Only 2 and 3

D.   All 1, 2, and 3

Core Java

Q1. What will be the output of the following code?

```java
class Base {

  final void show() {

    System.out.println("Base::show() called");

  }

}

class Derived extends Base {

  public void show() {

    System.out.println("Derived::show() called");

  }

}

class Derivedsec extends Base {

  public void show() {

    System.out.println("Derivedsec::show() called");

  }

}

public class Main {

  public static void main(String[] args) {

    Base b = new Derived();

    b.show();

  }

}
```

A.   Base::show() called

B.   Derived::show() called

C.   Derivedsec::show() called

D.   Compilation error

Q 2.   For which of the following reasons, multiple inheritance is not supported in java?

A.   It reduces the complexity and simplicity of the language

B.   It does not fulfil the user's demand

C.   It increases the complexity and reduces the simplicity of the language

D.   It takes a large space of memory

Q 3.   Which of the following queries can be used to get the last name from 'Student' table after replacing special character with white space?

[Note: LAST_NAME attribute contains the last name of the students]

A.   Select REPCHAR(LAST_NAME,'%',' ') from Student;

B.   Select REPLACE(LAST_NAME,'%',' ') from Student;

C.   Select REP(LAST_NAME,'%',' ') from Student;

D.   Select SWAP(LAST_NAME,'%',' ') from Student;

Q 4.   Which of the following queries can be used to find the second highest salary from an employee table?

A.   Select TOP 2 Salary FROM employee ORDER BY salary DESC;

B.   Select TOP 2 Salary FROM employee ORDER BY salary ASC;

C.   Select TOP 1 Salary FROM (Select TOP 2 salary FROM employee ORDER BY salary DESC) ORDER BY salary ASC;

D.   Select TOP 1 Salary from (Select TOP 2 Salary from employee ORDER BY salary ASC) ORDER BY salary DESC;

Basics of C

Q 1.   What will be the output of following code?

```
#include <stdio.h>
int main()
 {
  int i, n, a = 3;
  scanf("%d", &n);
  for (i = 0; i < n; i++)
  a = a * 2;
 }
```

    A.   Logical Shift left
    B.   No output
    C.   Arithmetic Shift right
    D.   Bitwise exclusive OR

Q 2.   What is the meaning of 'a' in the following operation?
fp = fopen("Random.txt", "a");

    A.   Attach
    B.   Append
    C.   Apprehend
    D.   Add

Q 3.   What will be the output of the following code?

```
int main()
 {
   double *p="xy";
   char *q="xy246";
   while(*p=*q)
   {
    printf("%c %c",*p,*q);
   }
 }
```

    A.   xy246xy246
    B.   xxy
    C.   xxyy
    D.   Runtime Error

Q 4.   What will be the output of the following code?

```
#include  <stdio.h>
int main()
 {
  char chr;
  chr = 218;
  printf("%d\n", chr);
  return 0;
 }
```

A.   218
B.   -128
C.   -38
D.   None of the mentioned options