Sample Paper – 2014
Class – XI
Subject – Computer Science

Instructions:--
   (1) All questions are compulsory.
   (2) Programming Language: Python

1 **(a)** What is namespace in regard to function in python? **(1)**

(b) WAP to calculate the area of triangle using Heron's formula using built in function in math module. **(2)**

(c) Write a function roll_D(), that takes 2 parameter, the number of sides (with default value as 6), of a dice, and the number of times dice to roll and generate random roll values for each dice rolled. Print out each roll and then return a string "That's all". **(2)**
Example roll_D(6,3)
4
1
6
That's all

(d) What are the things involved in creating and using function in python? **(2)**

2 **(a)** How can we divide function in different categories depending upon parameter passed and value returned? Explain with example? **(3)**

(b) What are different scopes of variable in regard to function? Explain with example? **(1)**

(c) Write a program to accept the number and power as argument and return the number raised to the power using function? If power is not passed as parameter then it should return the cube of the number? **(2)**

(d) Write a function that receives the number and n term from the user and return the sum of the following series? **(2)**
$x-x^2/2!+x^3/3!-x^4/4!.......$

3 **(a)** Explain slice and comparison operator in string with examples? **(2)**

(b) Write a program that receives a string and checks whether it is a palindrome string or not? **(2)**

(c) Write a program to accept a String from user and count the vowels present in it? **(2)**

(d) Carefully go through the code given below and answer the questions based on it: **(2)**

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```
teststr="abcdefghi"
inputstr = raw_input("Enter Integer : ")
inputint = int(inputstr)
cnt=2
newstr=''
while cnt < = inputint :
        newstr = newstr + teststr[0: cnt]
        teststr = teststr[2: ] # line 1
        cnt +=1
print newstr        # line 2
print teststr       # line 3
print cnt           # line 4
print inputint      # line 5
```

(i). Given the input integer 4, what output is produced by line 2?
(ii). Given the input integer 4, what output is produced by line 3?
(iii). Given the input integer 3, what output is produced by line 4?
(iv). Given the input integer 3, what output is produced by line 5?

(e) Write a function that receives a string as parameter and return the string that contains only digits **(2)** present in the entered string. If the string does not have any digit then 0 must be returned? Also find the sum of digit and total number of digit present in returned string?
Eg:
If user enters abc2 def pq4r m7g
then string returned should be 247
sum should be 13
count should be 3

4 **(a)** Write a program to accept list of 10 elements from the user and a number to be searched. If the **(2)** number is found print "element found" and print it's index location otherwise print "element not found"?

(b) Write a program to accept list of 10 elements from the user and find the sum of odd numbers in it? **(2)**

(c) Write a program to accept list of 10 elements from the user and bring it in sorted order without using **(2)** sort() built in function?

(d) Write a program to accept list of 10 elements from the user and if it contains positive value replace it **(2)** with 1 and if it contains negative value replace it with -1, 0 should remain unaltered?

(e) Write a program to demonstrate the use of built in functions of list in a meaningful application? Make **(2)** use of at least any 4 functions?

5 **(a)** Convert $FACE_{16}$ to binary form? **(1)**

(b) Convert 39.46_{10} to binary form? **(1)**

(c) What are the commonly used operating systems? Briefly explain them? **(2)**

(d) Write a program to accept a number from the user and check whether it is Armstrong or not? **(2)**

(e) Write a program to print all the prime numbers from 1 to n where n is input entered by the user? **(3)**

6 **(a)** Write down the tabular representation of distinct features of different computer generations? **(2)**

(b) Name the function that receives ASCII value and return corresponding character in return? **(1)**

(c) What is type casting? What are its types, explain them with examples? **(2)**

(d) Name the module that is used to work with graphics in python? **(1)**

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