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**GUWAHATI REGION**

**HALF YEARLY QUESTION PAPER 2018**

**INFORMATICS PRACTICES**

Max.Marks:-70 Time:3 Hrs

|  |  |  |
| --- | --- | --- |
| 1(a) | Define Interpreter | 1 |
| (b) | 1 Tera Byte=\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_Peta Bytes | 1 |
| (c) | The value of the expression:  4 + 3 % 5 | 1 |
| (d) | Draw the functional parts of the computer | 2 |
| 2(a) | Evaluate the expression given below if A= 16 and B = 15.  (i)A % B // A  What are the values of the following expressions:  (ii)2\*\*(3\*\*2) | 2 |
| (b) | Differentiate between mutable and immutable data types with example | 2 |
| (c) | Write a python program to enter mark of a student in Five Subjects  find average and assign grade as per the condition given below:   |  |  | | --- | --- | | (avg>=91<=100 | A+ | | (avg>=81<=90 | A | | (avg>=71<=80 | B+ | | (avg>=61<=70 | B | | (avg>=51<=60 | C+ | | (avg>=41<=50) | C | | (avg>=0<=40 | F | | 3 |
| (d) | Write a program to develop a four function calculator for addition,subtraction,multiplication and division | 3 |
| 3(a) | Write the names of two string functions in Python | 1 |
| (b) | Write a function to find simple interest | 2 |
| (c) | Write a function to calculate GST | 3 |
| (d) | Write a program to check whether a given number is palindrome or not | 4 |
| 4(a) | Define Dictionary | 1 |
| (b) | Write a Python program to find those numbers which are divisible by 7 and multiple of 5, between 1500 and 2700 (both included) | 2 |
| (c) | Differentiate between tuple and list | 2 |
| (d) | How continue statement used in Python.Give one program to illustrate that | 3 |
| 5(a) | ch = "Hello Python"  str1 = "String Chapter"  print ("First single sub-string is: " , ch[0])  print ("Set of sub-string is: " , str1[2:5]) | 2 |
| (b) | If the list list1 contains the element as  List1=[123, 'john']  What will be the out put of the statement List1\*2 | 1 |
| (c) | Write a Python program that accepts a word from the user and reverse it. word =input("Input a word to reverse: ") | 2 |
| (d) | Write a python program to find the occurrence of the substring in the given string  Example if the string is “every body”, then count the occurrence of the string ‘body” | 3 |
| 6(a) | What will be the output of the following code   1. d ={"maya":40, "murali":45} 2. print(list(d.keys())) | 1 |
| (b) | Write a program to find maximum and minimum values in a given list is List is [12,13,15,19,20], | 2 |
| (c) | Write a Python script to concatenate following dictionaries to create a new one.  Sample Dictionary :  dic1={1:10, 2:20}  dic2={3:30, 4:40}  dic3={5:50,6:60} Expected Result : {1: 10, 2: 20, 3: 30, 4: 40, 5: 50, 6: 60} | 2 |
| (d) | Write a program to search an element in an array using linear search using function . Function name should be linear() | 3 |
| 7(a) | Draw a flowchart to find standard deviation | 4 |
| (b) | Write program to print the following pattern  (('geek',),)  ((('geek',),),)  (((('geek',),),),)  ((((('geek',),),),),)  (((((('geek',),),),),),) | 4 |
| (c) | What will be the output of the following code  Is the following piece of code valid?  >>> a,b,c=1,2,3  >>> a,b,c | 1 |
| (d) | Explain any two bitwise operators in python with example | 2 |
| 8(a) | Define data frame | 1 |
| (b) | Write and explain any two data structures in python panda | 2 |
| (c ) | Write a program to create a series from a dictionary | 3 |
| (d) | Explain the following functionalities in series with example for each  (a)axes (b)dtype(c)empty(d)tail | 4 |

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MARKING SCHEME

|  |  |
| --- | --- |
| 1(a) | 1 mark for definition |
| (b) | 1024 1 mark |
| ( c) | 7 1 mark |
| (d) | 2 marks for the neat diagram |
| 2(a) | 1. 0 2. 512 1 mark each |
| 2(b) | Each difference ½ mark each. Each example ½ mark each½ |
| (c) | print("Enter 'x' for exit.");  print("Enter marks obtained in 5 subjects: ");  mark1 = input();  if mark1 == 'x':  exit();  else:  mark1 = int(mark1);  mark2 = int(input());  mark3 = int(input());  mark4 = int(input());  mark5 = int(input());  sum = mark1 + mark2 + mark3 + mark4 + mark5;  average = sum/5;  if(average>=91 and average<=100):  print("Your Grade is A+");  elif(average>=81 and average<=90):  print("Your Grade is A");  elif(average>=71 and average<=80):  print("Your Grade is B+");  elif(average>=61 and average<=70):  print("Your Grade is B");  elif(average>=51 and average<=60):  print("Your Grade is C+");  elif(average>=41 and average<=50):  print("Your Grade is C");  elif(average>=0 and average<=40):  print("Your Grade is F");  else:  print("Strange Grade..!!");  1 mark for accepting marks  1 mark for finding average and 1 marks for grade calculation |
| (d) | choice = int(input("Enter your choice: "));  if (choice>=1 and choice<=4):  print("Enter two numbers: ");  num1 = int(input());  num2 = int(input());  if choice == 1:  res = num1 + num2;  print("Result = ", res);  elif choice == 2:  res = num1 - num2;  print("Result = ", res);  elif choice == 3:  res = num1 \* num2;  print("Result = ", res);  else:  res = num1 / num2;  print("Result = ", res);  elif choice == 5:  exit();  else:  print("Wrong input..!!");  ½ marks each for each operation and½ mark for accepting number, ½ mark for printing output |
| 3(a) | Any two string functions ½ marks each |
| (b) | 1 mark for coding,1 mark for accepting values |
| (c) | |  | | --- | | def Calculate\_GST(org\_cost, N\_price):          return (((N\_price - org\_cost) \* 100) / org\_cost);  2 mark for function definition,1 mark for calling the function | |  | |
| (d) | n=int(input("Enter number:"))  temp=n  rev=0  while(n>0):  dig=n%10  rev=rev\*10+dig  n=n//10  if(temp==rev):  print("The number is a palindrome!")  else:  print("The number isn't a palindrome!" |
| 4(a) | 1 mark for definition |
| (b) | nl=[]  for x inrange(1500,2701):  if(x%7==0)and(x%5==0):  nl.append(str(x))  print(','.join(nl)) |
| (c) | Two differences each.Each difference ½ each |
| (d) | One mark for continue. 2 mark for programme |
| 5(a) | (i)H(ii)llo 1 mark each |
| (b) | =[123, 'john'][123,’john’] 1 mark |
| (c) | for char in range(len(word)-1,-1,-1):  print(word[char], end="")  print("\n")  1 marks for function and 1 mark for printing |
| (d) | 1 mark for accepting the string,1 mark for function definition,1 mark for printing |
| 6(a) | Maya murali ½ mark each |
| (b) | 1 mark for maximum and 1 mark for minimum |
| (c) | dic1={1:10,2:20}  dic2={3:30,4:40}  dic3={5:50,6:60}  dic4 ={}  for din(dic1, dic2, dic3): dic4.update(d)  print(dic4)  1 mark for for loop 1 mark for printing |
| (d) | defsearch(arr, x):        for i inrange(len(arr)):            ifarr[i] ==x:              returni        return-1 |
| 7(a) | 4 mark for the complete diagram |
| (b) | tup =('geek',)  n =5  fori inrange(int(n)):      tup =(tup,)      print(tup) |
| (c) | (1,2,3) 1 mark for the correct answer |
| (d) | ½ mark each for explanation and example |
| 8(a) | 1 mark for definition |
| (b) | 1 mark for each |
| (c) | 2 mark for the code |
| (d) | ½ mark each for explanation and example |