

| <div style="text-align: center;"><div>SCS</div><div>sultan chand</div><div>SAMPLE PAPER - I</div><div>SOLUTIONS</div><div>SUBJECT – COMPUTER SCIENCE (Python)</div><div>CLASS- XI</div><div>SCS</div><div>sultan chand</div></div> | | | |
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| MAXIMUM MARKS: 70 | | TIME:3 hours | |
| GENERAL INSTRUCTIONS: | | | |
| 1. Number of questions are 6. | | | |
| 3. Answer the questions in sequence. | | | |
| 4. Read the question carefully before attempting it. | | | |
| Q1 | a) | Draw a flowchart for finding the sum of n numbers. | 2 |
| | Ans | <div>Flow chart</div> <pre>graph TD; Start([Start]) --> Sum0[Sum = 0]; Sum0 --> I1[I = 1]; I1 --> Input[/Input a number/]; Input --> Decision{I > n}; Decision -- True --> Output[/Output Sum/]; Output --> Stop([Stop]); Decision -- False --> SumAdd[Sum = sum + number]; SumAdd --> IInc[I = I + 1]; IInc --> Input;</pre> | |
| | b) | Write pseudo code to accept length and breadth and calculate Area and Perimeter of a rectangle and display. | 2 |
| | Ans | Pseudo code: Input length of a Rectangle. Input breadth of a Rectangle. Set the area by multiplying length and breadth. Set the Perimeter by adding length and breadth and then dividing it by 2. Display area and perimeter. | |
| | c) | Write the output of the following: 1) p,q,r=2,3,4 r,q,p = p+2,q-2,r+2 print (p,q,r) | (1X4=4) |

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| | | <p>2) <code>x=3</code> <code>x+=x-x</code> <code>print (x)</code></p> <p>3) <code>X="hello world"</code> <code>Y=2.3</code> <code>Print (type(X))</code> <code>print (type(Y))</code></p> <p>4) Which of the following are invalid identifiers. a) Myfile b) _abc c) 29ctc d) Break</p> | |
| | Ans | <p>1) 6 1 4 2) 3 3) Str Float 4) 29ctc</p> | |
| | d) | <p>Give the output of the following python statements.</p> <pre> y=5 for l in range(1,3): for j in range(0,i): z=i+j-1 if (z%2)==0: y=y+z elif (z%3)==0: y=y+z-2 print ("y=",y) </pre> | 2 |
| | Ans | <p>y= 5 y= 7</p> | |
| | e) | <p>Give the output of the following python statements.</p> <pre> L=list("data") X="" count = 1 for i in L: if i in ["a","e","i","o","u"]: X=X+i.swapcase() else: if (count%2) !=0: X=X+str(len(L[:count])) else: X=X+i count=count+1 </pre> | 2 |

| | | | |
|----|-----|---|---|
| | | <pre>print (X) print (count)</pre> | |
| | Ans | 1A3A 5 | |
| Q2 | a) | <p>Write the output of the following:</p> <pre>L=[10,20,30,40] L1=[500,600] L2=[35,45] L1.extend(L2) L.insert(25,2) print (L1+L2) print (L1) print (L.index(30)) print (L2*2)</pre> | 2 |
| | Ans | <pre>[500, 600, 35, 45, 35, 45] [500, 600, 35, 45] 2 [35, 45, 35, 45]</pre> | |
| | b) | <p>Suppose L=["These",10,["count", "few"],'words'] Consider the above list and answer the following:</p> <ol style="list-style-type: none"> 1) L[2:] 2) L[2][1] | 1 |
| | Ans | <ol style="list-style-type: none"> 1. L[2:] [["count", "few"],'words'] 2. L[2][1] 'count' | |
| | c) | <p>Write the python statement and the output for the following:</p> <ol style="list-style-type: none"> 1) Find the second occurrence of 'm' in 'madam'. 2) To replace 'o' with '*' in word 'hello'. 3) To remove 'h' from word 'hectic'. 4) To break the string 'Revolution' into 3 parts taking 'l' as separator. 5) Change the case of each letter in string 'ScHoOl'. 6) Whether 'S' exists in string 'Schedule' or not. | 6 |
| | Ans | <pre>1 'madam'.find('m',1) - 4 2 'hello'.replace('e','*') - 'hell*' 3 'hectic'.lstrip('h') - 'ectic'</pre> | |

| | | | |
|----|-----|---|---|
| | | <pre> 4 'Revolution'.partition('l') -('revo', 'l', 'ution') 5 "ScHoOl".swapcase() -sChOoL 6 'S' in 'Schedule' - True </pre> | |
| | d) | <p>Find the output of the following.</p> <pre> T1=(10,20,30,40,50) T2=(100,200,300) T1,T2=T2,T1 1) min(T1) 2) max(T2) </pre> | 1 |
| | Ans | <pre> 1) 100 2) 50 </pre> | |
| | e) | <p>What will be the output of the following python code? Explain the try and except used in the code.</p> <pre> A=0 B=6 print ('One') try: print ('Two') X=8/A print('Three') except ZeroDivisionError: print (B*2) print ('Four') except: print (B*3) </pre> | 2 |
| | Ans | <pre> One Two 12 Four </pre> | |
| Q3 | a) | Write different ways of writing comments in a program? Give Example also. | 1 |
| | Ans | <p>In python comment start with '#' symbol. Anything written after # in a line is ignored by interpreter.</p> <p>For multiple line either place # in front of each line or use triple quotes, they will work as comment, when they are not used as doc string.</p> | |
| | b) | Write the difference between break and continue statements. | 1 |
| | Ans | <p>The break statement provides immediate termination of the entire loop body whereas continue statement forces the next iteration of the loop to take place, skipping any code following continue statement in the loop body.</p> | |

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| c) | Write a program to find and display prime numbers below 50. | | 2 |
| Ans | <pre> for num in range(2,50): i=2 while i<num : if num%i ==0: break i=i+1 else: print (num) </pre> | | |
| d) | Write a program to Input a string and check whether it is palindrome or not? | | 2 |
| Ans | <pre> str=input("Enter the String") l=len(str) p=l-1 index=0 while (index<p): if(str[index]==str[p]): index=index+1 p=p-1 else: print ("String is not a palindrome") break else: print ("String is a Palindrome") </pre> | | |
| e) | WAP to remove duplicate items from a list and display. | | 2 |
| Ans | <pre> l2=[] for i in range(len(l1)): print l1[i] if l1[i] not in l2: l2.append(l1[i]) print (l2) </pre> | | |
| f) | Write a program to input 'n' name and phone numbers to store it in a dictionary and to input any name and to print the phone number of that particular name. | | 3 |
| Ans | <pre> phonebook=dict() n=input("enter total no of friend") i = 1 </pre> | | |

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|----|-----|--|----------|----|-----|----------|----|----|---------|---|---|---|---|---|---|---|--|
| | | <pre>while i<=n: a=input("enter name") b=int(input("enter phone number")) phonebook[a]=b i = i+1 name = input("enter name") f = 0 l = phonebook.keys() for i in l: if (cmp(i,name)==0): print ("ph no=",phonebook[i]) f= 1 if f==0: print ("Not found")</pre> | | | | | | | | | | | | | | | |
| Q4 | a) | Two devices used by the supermarket point-of-sale (POS) terminal are a barcode reader and a keyboard. Name two other input/output devices used at the POS and give a use for each device. | 1 | | | | | | | | | | | | | | |
| | Ans | (a) Monitor used to display the information about the items purchased or sold. (b) Printer used for taking printout of the bill or invoice generated. | | | | | | | | | | | | | | | |
| | b) | What is cloud computing? | 1 | | | | | | | | | | | | | | |
| | | The technology of distributed data processing in which some scalable information resources and capacities are provided as a service to multiple external customers through Internet technology. It allows storing, accessing data and programs using Internet. | | | | | | | | | | | | | | | |
| | c) | 1. Convert $(10110.0101)_2$ into decimal number. 2. Convert $(325)_{10}$ into octal number. 3. Add 101101 to 11001 | 3 | | | | | | | | | | | | | | |
| | Ans | 1. 22.3125 2. 213 3. 1000110 | | | | | | | | | | | | | | | |
| | d) | Define De Morgan's Theorem with the help of truth table. | 2 | | | | | | | | | | | | | | |
| | Ans | De Morgan's Theorem: States that $(X+Y)' = X'.Y'$ and $(X.Y)' = X' + Y'$ <table><tr><td>X</td><td>Y</td><td>X.Y</td><td>$(X.Y)'$</td><td>X'</td><td>Y'</td><td>$X'+Y'$</td></tr><tr><td>0</td><td>0</td><td>0</td><td>1</td><td>1</td><td>1</td><td>1</td></tr></table> | X | Y | X.Y | $(X.Y)'$ | X' | Y' | $X'+Y'$ | 0 | 0 | 0 | 1 | 1 | 1 | 1 | |
| X | Y | X.Y | $(X.Y)'$ | X' | Y' | $X'+Y'$ | | | | | | | | | | | |
| 0 | 0 | 0 | 1 | 1 | 1 | 1 | | | | | | | | | | | |

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| | d) | What is Social Media? Name few sites. | 1 | | | | | | | | | | | | |
| | Ans | The term social media refers to web and mobile technologies and practise that people use ot share content, opinions, insights, experiences, and perspective online. There are many prominent examples of social media platforms, including Face book, Twitter, YouTube, LinkedIn and blogging sites among many others. | | | | | | | | | | | | | |
| | e) | Write down name of any three-social networking site. | 1 | | | | | | | | | | | | |
| | Ans | Facebook, Twitter, LinkedIn and Google+. | | | | | | | | | | | | | |
| | f) | Which of the following crime(s) is/are covered under cyber-crime? a) Stealing brand new hard disk from a shop. b) Getting into unknown person’s social networking account and start messaging on his behalf. c) Copying some important data from a computer without taking permission from the owner of the data. | 1 | | | | | | | | | | | | |
| | Ans | (b) and (c) | | | | | | | | | | | | | |
| | g) | What is Cyber stalking? | 1 | | | | | | | | | | | | |
| | Ans | Cyber stalking is defined as the unlawful act to harass a person, or collecting an individual’s private information using electronic network. | | | | | | | | | | | | | |
| | h) | What are the demerits of social networking? | 2 | | | | | | | | | | | | |
| | Ans | <ul style="list-style-type: none">• Unreliable information• Lack of control• Can be addictive | | | | | | | | | | | | | |
| Q6 | a) | Give a suitable example of a table with sample data and illustrate Primary and Alternate Keys in it. | 2 | | | | | | | | | | | | |
| | Ans | <p>Primary Key: Primary key is a set of one or more fields/columns of a table that uniquely identify a record in database table. It cannot accept null, duplicate values. Only one Candidate Key can be Primary Key.</p> <p>Alternate key: Alternate key is a key that can be work as a primary key. Basically it is a candidate key that currently is not primary key.</p> <p>Example: In below table AdmissionNo becomes Alternate Keys when we define Registration No as Primary Key.</p> <p style="text-align: center;">Student Registration Table:</p> <table><tr><td>RegistrationNo</td><td>AdmissionNo</td><td>Name</td><td>Phone</td><td>Gender</td><td>DOB</td></tr><tr><td>CBSE4554</td><td>215647</td><td>MihirRanjan</td><td>9568452325</td><td>Male</td><td>1992-04</td></tr></table> | RegistrationNo | AdmissionNo | Name | Phone | Gender | DOB | CBSE4554 | 215647 | MihirRanjan | 9568452325 | Male | 1992-04 | |
| RegistrationNo | AdmissionNo | Name | Phone | Gender | DOB | | | | | | | | | | |
| CBSE4554 | 215647 | MihirRanjan | 9568452325 | Male | 1992-04 | | | | | | | | | | |

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|----------|---|--|------------|--------|------------|------------|--------|------------|----------|--------|--------------|------------|------|------------|----------|--------|-------------|------------|------|------------|--|
| | | <table><tr><td>CBSE6985</td><td>265894</td><td>AmitaGuha</td><td>8456985445</td><td>Female</td><td>1993-03-24</td></tr><tr><td>CBSE5668</td><td>458961</td><td>Rajesh Singh</td><td>9654212440</td><td>Male</td><td>1992-12-04</td></tr><tr><td>CBSE3654</td><td>469799</td><td>Mohit Patel</td><td>7421589652</td><td>Male</td><td>1992-05-16</td></tr></table> | CBSE6985 | 265894 | AmitaGuha | 8456985445 | Female | 1993-03-24 | CBSE5668 | 458961 | Rajesh Singh | 9654212440 | Male | 1992-12-04 | CBSE3654 | 469799 | Mohit Patel | 7421589652 | Male | 1992-05-16 | |
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| | | Primary Key – Registration Number Alternate Key –Admission No | | | | | | | | | | | | | | | | | | | |
| b) | Consider the following tables STOCK and DEALERS and write the queries from i) to iv) and output of v) to viii). | 6 | | | | | | | | | | | | | | | | | | | |

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|---------------------|-------------------|-------|-----|-----------|-----------|
| Table: STOCK | | | | | |
| ItemNo | Item | Dcode | Qty | UnitPrice | StockDate |
| 5005 | Ball Pen 0.5 | 102 | 100 | 16 | 31-Mar-10 |
| 5003 | Ball Pen 0.25 | 102 | 150 | 20 | 01-Jan-10 |
| 5002 | Gel Pen Premium | 101 | 125 | 14 | 14-Feb-10 |
| 5006 | Gel Pen Classic | 101 | 200 | 22 | 01-Jan-09 |
| 5001 | Eraser Small | 102 | 210 | 5 | 19-Mar-09 |
| 5004 | Eraser Big | 102 | 60 | 10 | 12-Dec-09 |
| 5009 | Sharpener Classic | 103 | 160 | 8 | 23-Jan-09 |

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|-----------------------|---------------------|
| Table: DEALERS | |
| Dcode | Dname |
| 101 | Reliable Stationers |
| 103 | Classic Plastics |
| 102 | Clear Deals |

Write SQL commands for the following statements:

i) To display details of all Items in the Stock table in ascending order of StockDate.

ii) To display ItemNo and Item name of those items from Stock table whose UnitPrice is more than Rupees 10.

iii) To display the details of those items whose dealer code (Dcode) is 102 or Quantity in Stock (Qty) is more than 100 from the table Stock.

iv) To display Maximum UnitPrice of items for each dealer individually as per Dcode from the table Stock.

v) SELECT COUNT(DISTINCT Dcode) FROM Stock;

vi) SELECT Qty*UnitPrice FROM Stock WHERE ItemNo=5006;

vii) SELECT Item, Dname FROM Stock S, Dealers D WHERE S.Dcode=D.Dcode AND ItemNo=5004;

| | | | | | | | | | | | | | | |
|-----------------------|------------|---|-----------------------|---|------|------|-------|--|------------|-------------|--|--|--|--|
| | | viii) SELECT MIN(StockDate) FROM Stock; | | | | | | | | | | | | |
| | Ans | <p>i) SELECT * FROM STOCK ORDER BY StockDate;</p> <p>ii) SELECT ItemNo, Item FROM STOCK WHERE UnitPrice>10;</p> <p>iii) SELECT * FROM STOCK WHERE Dcode=102 OR Qty>100;</p> <p>iv) SELECT Dcode, MAX (UnitPrice) FROM STOCK GROUP BY Dcode;</p> <p>Output</p> <table><tr><td>Count(DISTINCT Dcode)</td></tr><tr><td>3</td></tr></table> <p>v)</p> <p>vi) Qty*UnitPrice</p> <table><tr><td>4400</td><td>Item</td><td>Dname</td></tr><tr><td></td><td>Eraser Big</td><td>Clear Deals</td></tr><tr><td></td><td></td><td></td></tr></table> <p>vii)</p> <p>viii)</p> <p>MIN (StockDate)</p> <p>01-Jan-09</p> | Count(DISTINCT Dcode) | 3 | 4400 | Item | Dname | | Eraser Big | Clear Deals | | | | |
| Count(DISTINCT Dcode) | | | | | | | | | | | | | | |
| 3 | | | | | | | | | | | | | | |
| 4400 | Item | Dname | | | | | | | | | | | | |
| | Eraser Big | Clear Deals | | | | | | | | | | | | |
| | | | | | | | | | | | | | | |
| | c) | What is NULL value? | 1 | | | | | | | | | | | |
| | Ans | A NULL value in a table is a value in a field which is blank, which means a field with a NULL value is a field with no value not even zero is entered. | | | | | | | | | | | | |
| | d) | What is Data integrity? | 1 | | | | | | | | | | | |
| | Ans | Data integrity refers to maintaining and assuring the accuracy and consistency of data over its entire life cycle. | | | | | | | | | | | | |
| | e) | Differentiate between DROP and DELETE command. | 2 | | | | | | | | | | | |
| | Ans | DROP command is used to drop a table with all records stored in a table where as delete command is used to delete all records or some of the records from a table without deleting a table. | | | | | | | | | | | | |
| | f) | What is MongoDB? | 1 | | | | | | | | | | | |

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| | Ans | MongoDB is built on architecture of collections and documents. Documents comprise sets of key-value pairs and are the basic unit of data in MongoDB . | |
| | g) | What are SQL constraints? Define constraints DEFAULT and UNIQUE. | 2 |
| | Ans | <p>Constraints are the rules enforced on data or columns on table. These are used to restrict the values that can be inserted in a table. This ensures the accuracy and reliability of the data in the database.</p> <ul style="list-style-type: none"> • DEFAULT Constraint: Provides a default value for a column when no value is specified. • UNIQUE Constraint: Ensures that all values in a column are unique. There should not be any redundant value in a column which is being restricted. | |

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