**INDIAN SCHOOL AL WADI AL KABIR**

**Sample Paper**

**SUB: Computer Science (083)**

Date: Time Allowed:3 hours

Class: XII Maximum Marks: 70

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| *General instructions*:  • Please check that this question paper contains 35 questions.  • The paper is divided into 5 Sections- A, B, C, D and E.  • Section A, consists of 18 questions (1 to 18). Each question carries 1 Mark.  • Section B, consists of 7 questions (19 to 25). Each question carries 2 Marks.  • Section C, consists of 5 questions (26 to 30). Each question carries 3 Marks.  • Section D, consists of 2 questions (31 to 32). Each question carries 4 Marks.  • Section E, consists of 3 questions (33 to 35). Each question carries 5 Marks.  • All programming questions are to be answered using Python Language only | | |
|  | **SECTION –A** |  |
| **Q. No.** | **Question** | **Marks** |
| 1. | Find the invalid identifier from the following  a) sub%marks b)age c)\_subname\_ d)subject1 | 1 |
| 2. | Given the list L=[“A”, “E”, “I”, “O”, “U”] , write the output of print(L[2:5]) | 1 |
| 3. | Which module is required to work with CSV files in Python? | 1 |
| 4. | Identify the invalid logical operator in Python from the following.  a) and b) or c) by d) not | 1 |
| 5. | Suppose a tuple K is declared as K = (100, 102, 143, 309), which of the following is incorrect?  a)print(K[-1])  b) K[3] =405   1. print(min(K)) 2. print(max(K)) | 1 |
| 6. | Write a statement in Python to declare a dictionary whose keys are Sub1, Sub2, Sub3 and values are Physics, Chemistry, Math respectively. | 1 |
| 7. | A List is declared as List1=[2,3,5,7,9,11,13]  What will be the value of len(List1) | 1 |
| 8. | Name the built-in mathematical function / method that is used to return the smallest integer less than or equal to N. | 1 |
| 9. | Name the protocol that is used to transfer files. | 1 |
| 10. | Elements of the list are enclosed in \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ brackets. | 1 |
| 11. | In SQL, name the clause that is used to sort the records in ascending/descending order of an attribute. | 1 |
| 12. | In SQL, what is the use of IS NOT NULL operator? | 1 |
| 13. | Name the aggregate function to find the average value in SQL. | 1 |
| 14. | Which of the following is not a DDL command?  a) UPDATE b)ALTER TABLE c)CREATE TABLE d)DROP TABLE | 1 |
| 15. | Name the transmission media best suitable for difficult terrain like hilly  areas. | 1 |
| 16. | Identify the data type of INFO:  INFO = ['hello',203,'9',[5,6]]  a. Dictionary b. String c. Tuple d. List | 1 |
| 17. | **Assertion (A):-** If the arguments in function call statement match the number and order of arguments as defined in the function definition, such arguments are called positional arguments.  **Reasoning (R):-** During a function call, the argument list first contains default argument(s) followed by positional argument(s).  Mark the correct choice as   1. Both A and R are true and R is the correct explanation for A 2. Both A and R are true and R is not the correct explanation for A 3. A is True but R is False 4. A is false but R is True | 1 |
| 18. | **Assertion (A):-** If the arguments in function call statement match the number and order of arguments as defined in the function definition, such arguments are called positional arguments.  **Reasoning (R):-** During a function call, the argument list first contains default argument(s) followed by positional argument(s).  Mark the correct choice as   1. Both A and R are true and R is the correct explanation for A 2. Both A and R are true and R is not the correct explanation for A 3. A is True but R is False 4. A is false but R is True | 1 |
|  | **Section B** |  |
| 19. | Evaluate the following expressions:  a) 16 // 3 + 3 \*\* 3 + 15 / 4 - 9  b) x>y or y<z and not x!=z If x, y, z=25, 16, 9 | 2 |
| 20. | Differentiate between WiFi and Bluetooth technology in context of wireless communication technologies.  **OR**  Differentiate between Domain name and URL. Illustrate with the help of  suitable example. | 2 |
| 21. | Expand the following terms:  a. GPRS b. GSM c. WLL d. PPP | 2 |
| 22. | Differentiate between positional parameters and default parameters with suitable example program for each.  **OR**  How can a function return multiple values? Illustrate with an example program. | 2 |
| 23. | Rewrite the following code in Python after removing all syntax error(s). Underline each correction done in the code.  for Name in [Aakash, Sathya, Tarushi] IF Name[0]= 'S':  print(Name) | 2 |
| 24. | What are the incorrect output(s) from the given options when the following code is executed? Also specify the minimum and maximum values that can be assigned to the variable VALUE.  import random  VALUE = random.randint (0,3) SUBJECT=[“PHY”,”CHEM”,”MATHS”,”COMP”];  for I in SUBJECT:  for J in range(1, VALUE): print(I, end=””)  print()  Options   |  |  | | --- | --- | | i) PHYPHY CHEMCHEM MATHSMATHS  COMPCOMP | ii) PHY  PHYCHEM PHYCHEMMATHS | | iii) PHY | iv) PHY | | CHEMCHEM | CHEM | | COMPCOMPCOMP | MATHS | |  | COMP | | 2 |
| 25. | What do you understand by Alternate Keys in a table? Give a suitable example of Alternate Keys from a table containing some meaningful data. | 2 |
|  | **Section C** |  |
| 26. | Write a function Interchange (num) in Python, which accepts a list **num** of integers, and interchange the adjacent elements of the list and print the modified list as shown below: (Number of elements in the list is assumed as even)  Original List:  num = [5,7,9,11,13,15]  After Rearrangement num = [7,5,11,9,15,13] | 3 |
| 27. | Write a function in Python that displays the **words,** starting with uppercase letter in a file ‘legend.txt’.  Example: If the “legend.txt” contents are as follows:  Diego Maradona, Argentinian soccer legend and celebrated Hand of God scorer dies at 60.  The output of the function should be:  Diego Maradona, Argentinian Hand God  **OR**  Write a function countdigits() in Python, which should read each character of a text file “marks.txt”, count the number of digits and display the file content and the number of digits.  Example: If the “marks.txt” contents are as follows: Harikaran:40,Atheeswaran:35,Dahrshini:30,Jahnavi:48  The output of the function should be: Harikaran:40,Atheeswaran:35,Dahrshini:30,Jahnavi:48  ('Total number of digits in the file:', 8) | 3 |
| 28. | Write the outputs of the SQL queries (i) to (iii) based on the relations Car and Customer given below:     1. Select make, count(\*) from Car group by make having count(\*)<2; 2. Select Cname, Make from Car order by charges desc; 3. Select Custname, Cname from Car R, Customer C where R.Ccode=C.Ccode; | 3 |
| 29. | Write a function in Python Push (nums), where **nums** is a list of numbers. From this list push all odd numbers into a stack implemented by using a list. Display the stack if it has at least one element, otherwise display appropriate error message.  OR  Write a function in Python Popstack (names), where **names** is a stack implemented by a list of names. The function returns the name deleted  from the stack. | 3 |
| 30. | Find and write the output of the following Python code:  def Shuffle(str1):  str2=""  for i in range(0,len(str1)-1): if(str1[i].islower()):  str2=str2+str1[i].upper() elif str1[i].isupper():  str2=str2+str1[i].lower() elif str1[i].isdigit():  str2=str2+'d' else:  str2=str2+(str1[1-i]) print(str2)  Shuffle('Pre-Board Exam@2023') | 3 |
|  | **Section D** |  |
| 31. | A list Num contains the following elements: 3 21 5 6 14 8 14 3 Write a function which accepts the list as argument to swap the content with the next value divisible by 7 so that the resultant array looks like: 3 5 21 6 8 14 3 14 | 1  3 |
| 32. | Write a function to read data from a text file Data.TXT, and display word which have maximum number of vowels characters | 4 |
| **Section E** | | |
| 33. | Young Minds Ltd. is an educational organization. It is planning to setup its India campus at Chennai with its head office at Delhi. The Chennai campus has 4 main buildings – ADMIN, ENGINEERING, BUSINESS and MEDIA. You as a network expert have to suggest the best network relate solutions for their problems raised in (i) to (v), keeping in mind the distances between the  building and other given parameters.     1. Suggest the topology and draw the cable layout to efficiently connect various buildings within the CHENNAI campus. 2. Which hardware device will you suggest to be procured by the company to minimize the transmission loss? 3. Which will be the most suitable wireless communication medium to connect Chennai campus with its Delhi head office? 4. Which of the following will you suggest to establish the online face-to- face   communication between the people in the Admin Office of CHENNAI Campus and DELHI Head Office?   * 1. Cable TV   2. Email   3. Video Conferencing   Text Chat | 5 |
| 34 | A Book store **Current Books** is planning to store their book details in a database using SQL. As a database administrator, Poorvekka has decided that:   1. Name of the database – CB 2. Name of the table - Collections 3. The attributes of Collections are as follows:   BookNo - Numeric  BookName – Character of size 25 Price – Numeric    Quantity – Numeric   1. Identify the attribute best suitable to be declared as a primary key, 2. Write the degree and cardinality of the table **Collections**. 3. Write SQL command to increment the quantity by 20 wherever quantity is below 50. 4. Poorvekka wants to remove the entire data from table Collections. Which command will she use from the following:    1. DELETE FROM Collections;    2. DELETE Collections;    3. DROP DATABASE CB;    4. DELETE \* FROM Collections; | 5 |
| 35. | Atul Prakash of Class 12 is writing a program to create a CSV file “students.csv” which will contain student name and admission number for some entries. He has written the following code. As a programmer, help him to successfully execute the given task.  import # Line 1  def Addstudents(Name, Admno): # to write / add data into the CSV  f=open('students.csv',' ') # Line2 writerObj = csv.writer(f) writerObj.writerow([Name,Admno]) f.close()  #csv file reading code  def Retrievestudents():# to read data from CSV  with open(' students.csv','r') as fobj:  readerObj=csv. (fobj) # Line 3 for row in readerObj:  print (row[0],row[1])  fobj.close() # Line4  AddStudents(“Raghava”, “2541”) AddStudents (“Pooja”,”3411”) AddStudents(“Krutika”,”2218”)  Retrievestudents () #Line 5  (a) Name the module to be imported in Line 1. (b)Which mode Atul should open the file to add data.   1. Fill in the blank in Line 3 to read data from a csv file.   Is Line 4 mandatory? Justify your answer. | 5 |

***All the Best***