**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. | Which of the following symbols are used for comments in Python?  **(A)** // (B) & (C) /\*\*/ (D) # | 1 |
| 2. | Suppose str=”computer science with python” .What will be the output of print(type(str))  (a)int (b) bool (c) string (d)str | 1 |
| 3. | The RDBMS terminology for a row is \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_  (a) Tuple (b) relation (c) attribute (d) degree | 1 |
| 4. | Spans over less than a Kilometer  a)MAN b)LAN c)WAN d)All of the above | 1 |
| 5. | The IPV4 is a \_\_\_\_\_\_\_\_\_\_\_ bit numeric address  a)32 b)64 c)8 d)128 | 1 |
| 6. | A network device used to divide a single computer network into various sub- networks.  i)router ii)switch iii)hub iv)R | 1 |
| 7. | With SQL, how do you select all the records from a table named “Persons” where the value of the column “FirstName” ends with an “a”?   1. SELECT \* FROM Persons WHERE FirstName=’a’ 2. SELECT \* FROM Persons WHERE FirstName LIKE ‘a%’ 3. SELECT \* FROM Persons WHERE FirstName LIKE ‘%a’ 4. SELECT \* FROM Persons WHERE FirstName=’%a%’. | 1 |
| 8. | Which of the following is not a DDL command?  a) UPDATE b) TRUNCATE c) ALTER d) None of the Mentioned | 1 |
| 9. | To include the use of functions which are present in the random library, we must use the option:   1. import random 2. random.h 3. import.random 4. random.random | 1 |
| 10. | How many values can be returned by a function in python?  a) 0 b) 1 c) more than one d) 2 | 1 |
| 11. | The elements of a dictionary is enclosed in \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ brackets.  a)Square b)Curly c)Round d)None of the above | 1 |
| 12. | Which of the following command is used to change the VALUES OF rows that already exist in a table?  1. Insert. 2. Union. 3. Update. 4. Select | 1 |
| 13. | Give the output: my\_data = (1, 2, "Kevin", 8.9) print (my\_data[3]) 1. 8.9 2. “Kevin”. 3. 1 4. 2 | 1 |
| 14. | Suppose list1 is [1, 3, 2], What is list1 \* 2 ?  a) [2, 6, 4] b) [1, 3, 2, 1, 3] c) [1, 3, 2, 1, 3, 2] d) [1, 3, 2, 3, 2, 1] | 1 |
| 15. | The readlines() method returns  a) str b) a list of lines c) a list of single characters  d) a list of integers | 1 |
| 16. | To write data into CSV from python console, which of the following function is correct?   1. csv.write(file) 2. csv.writer(file) 3. csv.Write(file)   d. csv.writerow() | 1 |
| 17. | **Statement (A) :** A function can perform certain functionality  **Statement (B)** : A function must return a result value   1. Statement A is correct 2. Statement B is correct 3. Statement A is correct but Statement B is not correct   d) Both are incorrect | 1 |
| 18. | Ms. Suman is working on a binary file and wants to write data from a list to a binary file. Consider list object as l1, binary file suman\_list.dat, and file object as f. Which of the following can be the correct statement for her?   1. f = open(‘sum\_list’,’wb’); pickle.dump(l1,f) 2. f = open(‘sum\_list’,’rb’); l1=pickle.dump(f) 3. f = open(‘sum\_list’,’wb’); pickle.load(l1,f)   f = open(‘sum\_list’,’rb’); l1=pickle.load(f) | 1 |
|  | **Section B** |  |
| 19. | Evaluate the following expressions:  a) 6+7\*4+2\*\*3//5-8  b) 8<5 or no 19<=20 and 11<4 | 2 |
| 20. | Write down the fullform of :  POP b) TCP/IP c) WWW d) HTTPS | 2 |
| 21. | Differentiate between Candidate Key and Primary Key in the context Relational Database Mode | 2 |
| 22. | What will be the output of the following code? a=[1,2,3,4]  s=0  for a[-1] in a:  print(a[1]) s+=a[-1]  print(‘sum=’,s) | 2 |
| 23. | Difference between ALTER & UPDATE commands. | 2 |
| 24. | In the table Loan below   1. Identify the candidate key(s) from the table Garment. 2. What is the cardinality and degree of the table? | 2 |
| 25. | Differentiate between pop() and remove() in lists. | 2 |
|  | **Section C** |  |
| 26. | Vedika has created a dictionary containing names and marks as key-value pairs of 5 students. Write a program, with separate user-defined functions to perform the following operations:  Push the keys (name of the student) of the dictionary into a stack, where the corresponding value (marks) is greater than 70.  Pop and display the content of the stack. The dictionary should be as follows:  d={“Ramesh”:58, “Umesh”:78, “Vishal”:90, “Khushi”:60, “Ishika”:95} Then the output will be: Umesh Vishal Ishika | 3 |
| 27. | A department is considering to maintain their worker data using SQL to store the data. As a database administer, Karan has decided that :  Name of the database - Department Name of the table - WORKER  The attributes of WORKER are as follows:  WORKER\_ID - character of size 3 FIRST\_NAME – character of size 10 LAST\_NAME– character of size 10 SALARY - numeric  JOINING\_DATE – Date  DEPARTMENT – character of size 10   1. Identify the attribute best suitable to be declared as a primary key 2. Karan wants to increase the size of the FIRST\_NAME column from 10 to 20 characters.   characters. Write an appropriate query to change the size.   1. Karan wants to remove all the data from table WORKER from the database Department.   Which command will he use from the following:   * 1. DELETE FROM WORKER;   2. DROP TABLE WORKER;   3. DROP DATABASE Department;   4. DELETE \* FROM WORKER | 3 |
| 28. | Ashok Kumar of class 12 is writing a program to create a CSV file “cust.csv” with custid, custname and mobile no and search custname and delete the record. He has written the following code. As a programmer, help him to successfully execute the given task.  import # LINE1 record = list()  custname= input("Please enter a customer name to delete:") with open('cust.csv', 'r') as f:  data = csv. (f) # LINE2 for row in data:  record.append(row) for field in row:  if field == custname:  record. (row) #LINE3 with open('cust.csv', 'w') as f:  writer = csv.writer(f) writer.writerows(record  A) Name the module he should import in Line 1.  b) Write a code to read the fields (column heading) once from fields list in Line2.  (c) Write a code to delete the row from row list in Line3. | 3 |
| 29. | Write SQL commands for(a) to (b) and write the outputs for (C) on the basis of table GRADUATE    a) List the names of those students who obtained DIV 1 sorted by NAME .  b )Display a report, listing NAME , STIPEND , SUBJCT and amount of stipend received in a year assuming that the STIPEND is paid every month.  C.) Give the output of the following SQL statements based on table GRADUATE :  (i) Select MIN(AVERAGE ) from GRADUATE where SUBJECT=”PHYSICS”; (ii)Select SUM(STIPEND) from GRADUATE where DIV=1; | 3 |
| 30. | 1. Write a function countmy() in Python to read the text file "DATA.TXT" and count the number of times "my" occurs in the file.   For example, if the file "DATA.TXT" contains "This is my website. I have displayed my preferences in the CHOICE section." - the countmy() function should display the output as: "my occurs 2 times"  Or  Write a method/function DISPLAYWORDS() in python to read lines from a text file STORY.TXT, and display those words, which are less than 4 characters. | 3 |
|  | **SECTION D** |  |
| 31. | A list contains following record of a student:  [Employee\_name, Employee\_contact, Employee\_dept]  Write the following user defined functions to perform given operations on the stack named ‘data’:   1. Push\_element() - To Push an object containing name and contact of employee whose department is “Accounts” to the stack 2. (ii) Pop\_element() - To Pop the objects from the stack and display them. Also, display “Stack Empty” when there are no elements in the stack. | 1  3 |
| 32. | Explain IN, LIKE, BETWEEN, DISTINCT clause in MySQL. | 4 |
| **SECTION E** | | |
| 33. | Indian School, in Mumbai is starting up the network between its different wings. There are four Buildings named as SENIOR, JUNIOR, ADMIN and HOSTEL as shown below:     1. Suggest the cable layout of connections between the buildings. 2. Suggest the most suitable place (i.e., building) to house the server of this school, provide a suitable reason. 3. Suggest the placement of the following devices with justification. | 5 |
| 34. | Write SQL commands for the queries (i) to (iii) and output for (iv) & (vii) based on table company and customer  I) Identify the most appropriate Primary key for Tables Company and Customer.  Ii) To display those company name which are having prize less than 30000.  iii a.To increase the price by 1000 for those customer whose name starts with S?  b) What is the cardinality and degree of table customer?  Or | 5 |
| 35. | Aradhana is creating a binary file student.dat that has structure (rollno,name,class,percentage). She wrote a program to updating a record in the file requires roll number to be fetched from the user whose name is to be updated. She has few doubts in the code. Help her to complete the task. She uses intermediate file for working temp.dat  Import #STATEMENT 1 import os  f1 = open(‘student.dat','rb') f2=open(“temp.dat”,” ”) #Statement2  r=int(input(“enter rollno which you want to search”)) try:  while True:  e = pickle.load(f1)  if e[0]==r:  e[1]=input(“enter name”) pickle.dump( ) #Statement3  else:  pickle.dump(e,f2)  except:  f1.close() f2.close()  os.remove(“student.dat”)  os. (“temp.dat”,”student,dat”) #Statement4   1. Which module should be imported in the program? (Statement 1) 2. Write the correct statement required to open a temporary file named temp.dat. (Statement 2) 3. ) Which statement should Aradhana fill in Statement 3 to write the data to the binary filedat   Statement 4 to write the rename temp.dat to student.dat? | 5 |

***All the Best***