**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 is not a relational operator  a) > b)<= c)!= d)= | 1 |
| 2. | Identify the data type of result of expression 10<5  a)bool b)int c)float d)None | 1 |
| 3. | Which is not a type of tokens from the following.  a)keyword b) literals c)Operators d)Class | 1 |
| 4. | Identify valid declaration of tuple a)T={‘a’,’b’,’c’,’d’} b) T=‘a’,’b’,’c’,’d’  c)D=(‘a’,’b’,’c’,’d’) d) both b and c | 1 |
| 5. | Write the module that need to be imported to execute the function dump():  a)random b)csv c)mysql.connector d)pickle | 1 |
| 6. | Given the list L=[-1,4,6,-5] ,write the output of print(L[-1:-3])  a)[4,6,-5] b)[] c)[6,-5] d)error | 1 |
| 7. | What will be the output of following: x,y=10,5  x,y=y,x print(x,y)  a) 10,5 b)5 10 c) 5,10 d)10 5 | 1 |
| 8. | A function can return number of values  a)0 b)None c)Many d)2 | 1 |
| 9. | The default file open mode is mode  a)r b)r+ c)w d)a | 1 |
| 10. | Which of the following is/are mutable data type?  a)int b)string c)list d)tuple | 1 |
| 11. | Which operator in SQL is used to compare a value to a specified list of values  a)BETWEEN b)= c)IN d)ALL | 1 |
| 12. | Which of the following is not an aggregate function?  a)MIN() b)SUM() c)UPPER() d)COUNT() | 1 |
| 13. | Which keyword is used to eliminate duplicate values in an SQL select query?  a)unique b)distinct c)key d)all | 1 |
| 14. | Which of the following network device is a broadcasting device  a)switch b)hub c)gateway d)router | 1 |
| 15. | What do you mean by degree of a relation? | 1 |
| 16. | If all devices are connected to a central hub, then topology is called  a)tree topology b)bus topology c)star topology d)mesh topology | 1 |
|  | **Q17 and 18 are ASSERTION AND REASONING based questions. 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 |
| 17. | Assertion(A):The resultset refers to a logical set of records that are fetched from the database by executing an SQL query.  Reason(R):Resultset stored in a cursor object can be extracted by using  fetch(…) functions. | 1 |
| 18. | Assertion(A):Python overwrites an existing file or creates a non-existing file when we open a file with ‘w’ mode .  Reason(R):a+ mode is used only for write operations |  |
|  | **Section B** |  |
| 19. | Sona has written the following code to check whether number is divisible by 3 .She could not run the code successfully. Rewrite the code and underline each correction done in the code.  x=10  for I range in (a)  If i%3=0:  print(I  else  pass | 2 |
| 20. | Write disadvantage of bus topology and star topology(1 each).  **or**  What are Routers? How is it differs from gateway?. | 2 |
| 21. | Write output  a)a=5  a+=27  print(a)  b) a=5  print(a+4<10) | 2 |
| 22. | What is scope? What is the scope resolving rule in python? | 2 |
| 23. | (a)Expand the following terms: i)MAN ii)HTML  b)What is URL ? | 2 |
| 24. | Write output for the following code.  def encrypt(str):  str1="" for i in str:  if i.isupper(): str1+=i.lower()  else:  str1+="\*" return str1  s=encrypt("HeLLo") print(s)  or  Go through the python code shown below and find out the possible output(s) from the suggested options i to iv. Also specify maximum and minimum value that can be assigned to the variable j.  import random i=random.random() j=random.randint(0,6) print(int(i),”:”,j+int(i))  (i)0:0 (ii)0:6 (iii)1:7 (iv)1:6 |  |
| 25. | Differentiate ORDER BY and GROUP BY with an example.  OR  Classify the following statements into DDL and DML  a)delete b)drop table c)update d)create table | 2 |
|  | **Section C** |  |
| 26. | Consider the following tables CABHUB and CUSTOMER       1. What will be the output of following statement?   select VehicleName,Capacity from Cabhub c, Customer s where c.Vcode=s.Vcode and c.capacity<4;   1. Write the output of the queries (i) to (iv) based on the table CABHUB    1. select count(VCode),Color from CABHUB group by Color;    2. select distinct capacity from Cabhub;    3. select min(Charges),max(charges) from CABHUB;    4. select VehicleName,Make from CABHUB order by VehicleName | 3 |
| 27. | Write a function in python to count number of words ending with ‘n’ present in a text file “ABC.txt”  If ABC.txt contains “A story of a rich man And his son”, the output of the function should be  Count of words ending with ‘n’ is 2  **Or**  A text file contains alphanumeric text (say an.txt).Write a program that  reads this text file and prints only the numbers or digits from the file. | 3 |
| 28. | a)Write the output of the SQL commands for (i) to (iv) on the basis of tables BOOKS and ISSUES.         1. select sum(price) as TOTAL\_PRICE from BOOKS; 2. select \* from BOOKS where publisher=”DEF”; 3. select BookName,AuthorName from BOOKS,ISSUES where BOOKS.Book\_ID=ISSUES.Book\_ID and Qty\_Issued>10; 4. select BOOKS.Book\_ID, BookName, Publisher,Price,Qty,Qty\_Issued from BOOKS,ISSUES where BOOKS.Book\_ID=ISSUES.Book\_ID;   b)Write SQL command to display structure of the table BOOKS. |  |
| 29. | Write a function SUMNOS() that accept a list L of numbers and find sum of all even numbers and sum of all odd numbers.  If L=[1,2,3,4],  Output :  sum of even nos:6  Sum of odd numbers:4 | 3 |
| 30. | A stack S contains Name of countries.Write a function POP(A), to remove Name from stack. Function should handle underflow condition and should return removed element.  **OR**  Write a function PUSH(STACK,Name) to add new name to the STACK data structure . Also display all the names having at least 4 characters from the  stack. | 3 |
|  | **Section D** |  |
| 31. | A binary file Attendance.DAT has structure[adno, name, attend, wdays]. Write a function Count-Attendance() in python that would read the contents of the file Attendance.DAT and display the details of those students whose attendance is below 75%. Also display the total number of students with attendance below 75%. | 1  3 |
| 32. | Write a function Push-Stack(Arr, Item), where Arr is a list of numbers. Append the Item to the list if Item is an even number. Display the stack if it has at least one element, otherwise display appropriate error message. | 4 |
| **Section E** | | |
| 33. | “Learn Together” is an educational NGO. It is setting up its new campus at Jabalpur for its web based activities. The campus has 4 compounds as shown in the diagram below:    Center to center distances between various buildings is as follows:         1. Suggest the most suitable place (i.e. building) to house the server of this organisation with a suitable reason. 2. Suggest a cable layout of connections between the buildings. 3. The organisation is planning to link its admin counter situated in various parts of the same city, which type of network out of LAN, MAN or WAN will be formed? Justify your answer. 4. Suggest the placement of the following devices with justification:    1. Repeater    2. Hub/Switch   In each of the buildings,the management wants that each LAN segment gets a dedicated a bandwidth ie.bandwidth must not be shared. How can this be achieved? | 5 |
| 34. | Advaith,a manager has stored the details of departments in a table called  DEPARTMENT.  DEPTNO DNAME LOC  ----- -------------- --------  10 ACCOUNTING NEW YORK  20 RESEARCH DALLAS  30 SALES CHICAGO  40 OPERATIONS BOSTON  He wants to add one more record to this table and has written the following code and unable to insert that record.  INSERT INTO DEPARTMENT VALUES(43,”HRD”);   1. Help him to correct the code for adding the record 2. How can he restrict Null values in the table 3. Write a commands to :   a. show the names of department starting with “R”. b.update LOC as “New York” for DEPTNO 30.  OR(Option for part iii only)   1. Write a commands to :    1. insert the following record into the table:DEPTNO-47,DNAME-   Accounting,LOC-Paris   * 1. delete the records of location(LOC) “Boston” | 5 |
| 35. | A table DRUG is created in database MEDICINE. The details are as follows:  Develop an interface through python that updates the price with 5% whose cost is more than 100 using MySQL. | 5 |

***All the Best***