INDIAN SCHOOL AL WADI AL KABIR

INFORMATICS PRACTICES (065)(2020-2021)

SAMPLE PAPER 1

	Part – A	
	Section – I	
1	Software is not considered to be collection of executable programming code, associated libraries and documentations is True or False.	1
2	What are cookies?	1
3	Which SQL keyword is used to retrieve a minimum value ?	1
4	In which topology all the nodes are connected to a main cable called backbone?	1
5	Name the two important data structure of Pandas library.	1
6	The SQL command used to view the structure of the table created is _____	1
7	Which of the following unguided media requires legal permissions? a. Micro-wave b. WiFi c. Radio-wave d. Satellite	1
8	Find the output of the following dataframe: import pandas as pd df1=pd.DataFrame(["first","second"],columns=['col1']) print(df1)	1
9	Device which connects dissimilar networks	1
10	Write python statement to delete the 3rd and 5th rows from dataframedf.	1
11	An attribute that is uniquely identify column key.	1
12	Which clause is similar to "HAVING" clause in Mysql? a) SELECT b) WHERE c) FROM d) None of the mentioned	1
13	Any information about you or created by you that exists in digital forms is reffered as _____	1
14	MrAjay wants to plot a horizontal bar graph of the above given set of values with programming language on x axis and its popularity on y axis with following code. importmatplotlib.pyplotasplt x =['Java','Python','PHP','JS','C#','C++']	1

popularity =[22.2,17.6,8.8,8,7.7,6.7]
_____ Statement 1
plt.xlabel("Popularity")
plt.ylabel("Languages")
plt.show()
Complete the code by writing statement1 to print the horizontal bar graph with colour green

15 A relation in MySQL has 5 attributes and 8 tuples. What will be the cardinality and degree of the relation? 1

Section -II

Both the case study-based questions (16& 17) are compulsory. Each sub question carries 1 mark .

16 4

Consider a set of information for an Exam conducted for students for the following details:

names	marks	trials	passed
Sanya	95	2	Yes
Krish	70	3	No
Anna	65	1	No
ram	92	2	yes

Write a pandas code to create a dataframe named df with the above information with column names as "names","marks","trials","passed"

i) Display the first 3 rows of the DataFrame

ii) Display Name and marks columns only from the DataFrame iii) Display the rows where the price is greater than 90

iii) To sort the DataFrame first by 'name' in descending order, then by 'marks' in ascending order.

iv) To change the marks in 3rd row (i.e for index 2) to 67

17 4

Write SQL commands and output for the following queries:

StudentNo	Class	Name	Game1	Grade1	Game2	Grade2
10	7	Sameer	Cricket	B	Swimming	A
11	8	Sujit	Tennis	A	Skating	C
12	7	Kamal	Swimming	B	Football	B
13	7	Veena	Tennis	C	Tennis	A
14	9	Archana	Basketball	A	Cricket	A
15	10	Arpit	Cricket	A	Athletics	C

(i) Display the names of the students who have grade 'A' in either Game1 or Game2 or both.

(ii) Display the games taken by the students whose name starts with 'A'.

Give the output of the following SQL Statements

(1) SELECT COUNT(*) FROM SPORTS;

(2) SELECT DISTINCT Class FROM SPORTS;

(3) SELECT MAX(Class) FROM STUDENT;

	(4) SELECT COUNT(*) FROM SPORTS GROUP BY Game1;	
	Part – B	
	Section – I	
18	Explain webserver and webbrowser	2
19	Write the difference between Single-Row Functions and Multiple-Row	2
20	Write the outputs of the following: (i) Select POWER(2,4); (ii) Select ROUND(10.195,2); (iii)Select TRUNCATE(10.195,2); (iv)Select SUBSTR('COMPUTER SCIENCE',3,4);	2
21	Write a program to display which sections made a contribution more than Rs.5500/-.Series Object s11 stores the charity contribution made by each section. A 6700 B 5600 C 5000 D 5200	2
22	Write the appropriate usage of social networks.	2
23	Write a python code to create a dataframe with appropriate headings from the list given below : ['S101', 'Amy', 70], ['S102', 'Bandhi', 69], ['S104', 'Cathy', 75], ['S105', 'Gundaho', 82]	2
24	What is the difference between char and varchar?	2
25	Write a small python code to drop a row from dataframe labelled as 0.	2
26	What are the different keys available in SQL?Explain with example.	2
27	The name of the DataFrame is Cdf **Name Age Score** 0 Sachin 26 87 1 Dhoni 25 67 2 Virat 25 89 3 Rohit 24 55 4 Shikhir 31 47 a. Write the Python command to change the column names of the dataframe Cdf in as Age to S_Age, Score to FM_Score. b. Write the Python command to display the last 3 records of the dataframe Cdf	2
	Section II	
28	Create a data frame with following values Brand Price Year 0 Samsung J7 22000 2015 1 Vivo V11 25000 2013 2 Honor play 27000 2018	3

	3 Xiomi mi8 35000 2018 a) Write the command to sort the data on Brand name b) Write the command to sort the data on Brand name in descending order c) Write the command to sort the data on first year basis then price in ascending order	
28	What are intellectual property rights? Why should intellectual property rights be protected?	3
30	Write a Python program to display a bar chart of the popularity of programming Languages data given below : Programming languages: Java, Python, PHP, JavaScript, C#, C++ Popularity: 22.2, 17.6, 8.8, 8, 7.7, 6.7 (respectively)	3
31	Table: PharmaDB I. To increase the price of "Amlodipine" by 50. II. To display all those medicines whose price is in the range 100 to 150(both values inclusive). III. To display the Maximum price offered by pharmacy located in "Gurgaon"	3
	Section -III	
32	Consider the following data frame of automobile using a dictionary with the details given below (i) From the given data set print first and last three rows (ii) Sort all cars by price columns (iii) delete the body_style column	5

RxID	DrugID	DrugName	Price	PharmacyName	PharmacyLocation
R1000	5476	Amlodipine	100.00	Rx Pharmacy	Pitampura, Delhi
R1001	2345	Paracetamol	15.00	Raj Medicos	Bahadurgarh, Haryana
R1002	1236	Nebistar	60.00	MyChemist	Rajouri Garden, Delhi
R1003	6512	VitaPlus	150.00	MyChemist	Gurgaon,Haryana
R1004	5631	Levocitrezine	110.00	RxPharmacy	South Extension,Delhi

index	company	body-style	wheel-base	num-of-cylinders	price
0	bmw	sedan	101.2	four	16925
1	bmw	sedan	101.2	six	20970
2	honda	sedan	96.5	four	12945
3	honda	sedan	96.5	four	10345
4	toyota	hatchback	95.7	four	5348
5	toyota	hatchback	95.7	four	6338

33	Sample data is given for STUDENT table. Answer the queries that follow	5

ROLLNO	SNAME	GENDER	DOB	HOUSEID	FEES	HOBBY
1001	RAVI	M	2002-01-20	10	850	HOCKEY
1002	AMAR	M	2001-03-20	11	550	SOCCER
1003	SUJA	F	2004-11-25	10	650	KARATE
1004	RUMA	F	2003-12-31	12	650	SKATING
1005	SIJU	M	2002-09-11	13	550	KARATE
1006	ARUNA	F	2001-12-20	10	750	HOCKEY
1007	HYDER	M	2004-09-18	11	850	NULL
1008	RAINA	M	2005-08-21	12	850	SOCCER

i. Write SQL query to display the details of STUDENT table in the descending order of the FEES.

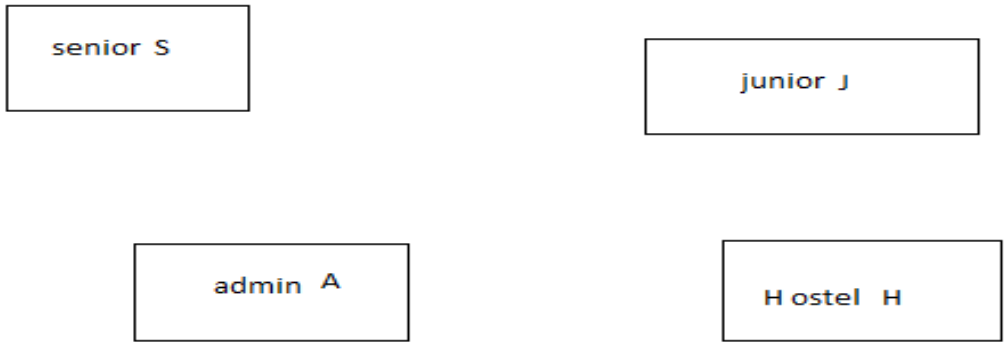
ii. Write SQL query to display the SNAME, GENDER and FEES for all the students whose HOUSEID is either 10 or 11 or 13.

iii. Write SQL query to display the SNAME, FEES and HOBBY for all the students who do not have a hobby.

iv. Write SQL query to display the SNAME and GENDER for all the students who are paying fees in the range of 600 to 800.

v. Write SQL query to display the ROLLNO and SNAME for all the students whose SNAME is ending with 'A'.

34	Vidya Senior Secondary Public School in Nainital is setting up the network between its different wings. There are 4 wings named as SENIOR(S), JUNIOR(J), ADMIN(A) and HOSTEL(H). Distance between various wings are given below :	5



Wing A to Wing S	100 m
Wing A to Wing J	200 m
Wing A to Wing H	400 m
Wing S to Wing J	300 m
Wing S to Wing H	100 m
Wing J to Wing H	450 m

Wing	Number of Computers
Wing A	20
Wing S	150
Wing J	50
Wing H	25

(i) Suggest a suitable Topology for networking the computers of all wings.
(ii) Name the most suitable wing where the Server should be installed. Justify your answer.
(iii) Suggest where all should Hub(s)/Switch(es) be placed in the network.
(iv) Which communication medium would you suggest to connect this school with its main branch in Delhi ?
(v) What is the type of network between the wings?