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| **HY/IPH/1220/A 4/11/2020** | | | | | |
| **HALF YEARLY EXAMINATION (2020-21)** | | | | | |
| **Subject: INFORMATICS PRACTICES (H)**  **Grade: XII** | | | Max. Marks: 70Time: 3 Hours | | |
| **Name:** | | **Section:** | | **Roll No:** | |
| **General Instructions:**   * This question paper contains two parts A and B. Each part is compulsory. * Both Part A and Part B have choices. * Part-A has 2 sections:   a. Section – I is short answer questions, to be answered in one word or one line.  b. Section – II has two case studies questions. Each case study has 4 case-based subparts.  An examinee is to attempt any 4 out of the 5 subparts.   * Part - B is Descriptive Paper. * Part- B has three sections * a. Section-I is short answer questions of 2 marks each in which one questions have internal * options. * b. Section-II is long answer questions of 3 marks each * c. Section-III is very long answer questions of 5 marks each * All answers to be written in the answer sheet provided. | | | | | |
|  | **PART A** | | | |  |
|  | **SECTION 1** | | | |  |
| 1 | The \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ statement is used to delete the structure of a table. | | | | 1 |
| 2. | The keyword \_\_\_\_\_\_\_\_\_\_\_\_is used to eliminate redundant data from display. | | | | 1 |
| 3. | Which statement is used to extract data from a table?  A. SELECT  B. DISPLAY  C. READ  D. EXTRACT | | | | 1 |
| 4. | How do you select a column named "IName" from a table named "Inventory"?  A. SELECT Inventory FROM Iname;  B. DISPLAY Iname FROM Inventory;  C. SELECT Iname FROM Inventory;  D. SELECT Iname, Inventory FROM Iname; | | | | 1 |
| 5. | Which of the following are valid column names?  A. Marks Eng  B. 66\_Marks  C. Marks\_Eng  D. #Eng\_Marks | | | | 1 |
|  |  | | | |  |
| 6. | State whether True or False  The OR operator displays a record if ANY of the conditions listed are true. The AND operator displays a record if ALL of the conditions listed are true A. False B. True | | | | 1 |
| 7. | Which statement is appropriate to change the first name "Madhur" to "Mridul" in the "FName" column in the 'Student' table?  A. UPDATE Student SET FName='Mridul' WHERE FName='Madhur' ;  B. MODIFY Student SET FName='Madhur' INTO FName='Mridul ;  C. UPDATE Student SET FName='Madhur' INTO FName='Mridul' ;  D. UPDATE Student SET FName='Madhur' WHERE FName='Mridul' ; | | | | 1 |
| 8. | SELECT TRUNCATE(7.956,2) will result in | | | | 1 |
| 9. | Any String function returns  (a) Only string  (b) Only number  (c) String or number  (d) String, number or date type data. | | | | 1 |
| 10. | Given a Pandas series called Sequences, the command which will display the lasr 4 rows is \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_.  a. print(Sequences.tail(4))  b. print(Sequences.Tail(4))  c. print(Sequences.tails(4)  d. print(Sequences.Tails(4)) | | | | 1 |
| 11 | To prevent unauthorized access to and / or from the network, a system known as \_\_\_\_\_\_\_\_\_\_\_\_, can be implemented by hardware and / or software. | | | | 1 |
| 12. | In a DataFrame, Axis= 0 represents the\_\_\_\_\_\_\_\_\_\_\_\_\_ elements. | | | | 1 |
| 13. | Which of the following is used for wired communication?  a. Radio wave  b. UTP cable  c. Radio Waves  d. Satellite | | | |  |
| 14. | A hub is used  a. Regenerates the received signal  b. Destroys the received signal  c. connecting computers  d. None of the above | | | | 1 |
| 15. | Radio waves are  a. Uni directional  b. Omni directional  c. Guided media  d. Not used for communication | | | | 1 |
| 16. | What will be the output of the following program  import pandas as pd  list = ['p', 'y', 't', 'h', 'o','n']  ser = pd.Series(list,index=[‘a’,’b’,’c’,’d’,’e’,’f’])  print(ser) | | | | 1 |
|  |  | | | |  |
| 17. | Write a statement to display the series where the letter equal to ‘n’ based on following series  import pandas as pd  list = ['p', 'y', 't', 'h', 'o','n']  ser = pd.Series(list) | | | | 1 |
| 18. | What will be the output of the following code  import pandas as pd  data = {'Name':['Tom', 'Jack', 'Steve', 'Ricky'],'Age':[28,34,29,42]}  df = pd.DataFrame(data, index=['rank1','rank2','rank3','rank4'])  print(df[‘Jack’]) | | | | 1 |
| 19. | Which command is used to delete a row in dataframe. | | | | 1 |
| 20. | Which command is used to draw a histogram | | | | 1 |
| 21. | Which command is used to show the meaning of lines in a graph | | | | 1 |
|  | **SECTION II**  Both the case study based questions (22 & 23 ) are compulsory. Attempt any four sub parts from each question. Each sub question carries 1 mark | | | |  |
| 22. | Consider the following table SPORTS   |  |  |  |  |  |  |  | | --- | --- | --- | --- | --- | --- | --- | | ADNO | NAME | CLA | SEC | MOB | GAME | GRA | | 1271 | UTPAL | 12 | C | 66991234 | SOCCER | A1 | | 1324 | DINESH | 10 | A | 99678910 | CRICKET | B1 | | 1364 | AKHTAR | 12 | B | 55123430 | HOCKEY | A1 | | 1434 | VARUN | 11 | B | 69235678 | SOCCER | B1 | | 1461 | DAVID | 12 | B | 93125702 | HOCKEY | A2 | | 2324 | SURESH | 11 | C | 54435729 | SOCCER | A1 | | 2371 | MOHINI | 10 | C | 63363747 | CRICKET | B1 | | 2385 | SATISH | 12 | B | 97843782 | SOCCER | A2 | | 2408 | JATHIN | 11 | A | 68982360 | HOCKEY | B1 | | 2419 | VIKASH | 12 | B | 55129045 | CRICKET | A1 |     Write SQL queries for the following: | | | |  |
| i) | Display ADNO, NAME, CLA and SEC whose CLA is either 10 or 12 | | | | 1 |
| ii) | Display the number of students CLA wise | | | | 1 |
| iii) | Display the table sorted on NAME | | | | 1 |
| iv) | Display details of students whose GAME is 'CRICKET' and GRA is 'A1' | | | | 1 |
| v) | Update grade of all students whose section is above or B | | | | 1 |
| 23. | Consider the following datafroame. Find out the following  d={"Name":['Ami','Jai','Raj','Pran'], "Marks":[10,12,14,16]}  df3=pd.DataFrame(d,index=['R1','R2','R3','R4'])   1. print(df3.loc['R3']) 2. print(df3.iloc[2]) 3. print(df3[df3[‘Marks’]>=12]) 4. print(df3.max) 5. print(df3.count(axis=1)) | | | | 1 |
|  |  | | | |  |
|  | **PART B** | | | |  |
|  | **SECTION 1** | | | |  |
| 24. | Write a Python program to create a series that stores the marks of each subject. Assume there are 5 subjects “English”,”B.Studies”,”History”,”IP”,”Mktg” . The marks are 75,80,45,95,78 respectively. The index number will be the subject name. | | | | 2 |
| 25. | Explain the difference between DDL and DML and also write the sql commands for each.  OR  Explain the difference between primary key and alternate key with suitable example | | | | 2 |
| 26. | Consider the decimal number x with value 8459.2654. Write commands in SQL to:  i. truncate it off to a whole number  ii. truncate it to 2 places before the decimal. | | | | 2 |
| 27. | Find the Output of following :  (i)SELECT CONCAT(LOWER(‘xiHum’), UPPER(’xiSc’), LOWER(‘xiCom’));  (ii) SELECT TRUNCATE(4567.132,-1);  (iii)SELECT DAYNAME(CURDATE());  (iv)SELECT DAYOFYEAR(CURDATE()); | | | | 2 |
| 28. | The Doc\_name Column of a table Hospital is given below  Docname  ------------  Avinash  Hariharan  Vinayak  Deepak  Sanjeev  Based on the information, find the output of the following queries:  (i) SELECT doc\_name FROM Hospital WHERE doc\_name like "%v";  (ii) SELECT doc\_name FROM Hospital WHERE doc\_name like '%e%'; | | | | 2 |
| 29. | Sarthak, 'a students of class XII, created a table "Class". Grade is one of the columns of this table. To find the details of students whose Grades have not been entered, he wrote the following MySql query, which did not give the desired result:  SELECT \* FROM Class WHERE Grade ="Null";  Help Sarthak to run the query by removing the errors from the query and write the correct query. | | | | 2 |
| 30. | Create a table name as Deptm with the following structure :  Field Name Field Type Constraint  DEPTNO Integer PRIMARY KEY  DNAME Varchar(14) NOT NULL  LOC Varchar(13)  Salary Integer | | | | 2 |
| 31. | Difference between Bus topology and Star topology | | | | 2 |
|  |  | | | |  |
| 32. | What happens to the Network with Star topology if the following happens :   1. One of the computers on the network fails ? 2. The central hub or switch to which all computers are connected, fails ? | | | | 2 |
| 33. | Write the purpose of the following devices :  1) Network Interface Card 2) Repeater | | | | 2 |
|  | **SECTION II** | | | |  |
| 34. | Find the output of the following program  K1=[1,2,3]  V1=[100,200]  D1=dict.fromkeys(K1,V1)  print(D1)  V2="Un Defined"  D2=dict.fromkeys(K1,V2)  print(D2)  D3=dict.fromkeys(K1)  print(D3) | | | | 3 |
| 35. | Write a python script to create a series contains Name and Mark. Display the data in descending order, top two and bottom two  For example if the series  Jai 14  Pran 13  Ami 18  Brij 12  Display the output in the following format:  Merit:  Ami 18  Jai 14  Pran 13  Brij 12  Top 2: Bottom 2:  Ami 18 Pran 13  Jai 14 Brij 12 | | | | 3 |
| 36. | Difference between hackers and crackers | | | | 3 |
| 37 | Write a program to create a dataframe for the following and perform the following.  Name Marks1 Marks2  0 Ami 10 20  1 Jai 12 30  2 Raj 14 40  3 Pran 16 50   1. Add a new column Average to store the average of both the marks. 2. Display the dataframe in ascending order of average | | | | 3 |
|  | **SECTION III** | | | |  |
| 38. | Write a script to draw a bar chart by importing appropriate package:   * The title of the bar chart is 'Rakesh Last 5 ODI Scores' * Use list teams=['MUM', 'DEL', 'RAJ', 'KAR', 'GOA'] as values x-axis * Use list runs=[88, 78, 102, 43, 85] as the values for y-axis * Label x-axis as 'Teams' * Label y-axis as 'Runs' * Plot the bar chart * Display the bar chart on the screen | | | | 5 |
| 39. | Based on the following table SPORTS:   |  |  |  |  |  |  |  | | --- | --- | --- | --- | --- | --- | --- | | ADNO | NAME | CLA | SEC | MOB | GAME | GRA | | 1271 | UTPAL | 12 | C | 66991234 | SOCCER | A1 | | 1324 | DINESH | 10 | A | 99678910 | CRICKET | B1 | | 1364 | AKHTAR | 12 | B | 55123430 | HOCKEY | A1 | | 1434 | VARUN | 11 | B | 69235678 | SOCCER | B1 | | 1461 | DAVID | 12 | B | 93125702 | HOCKEY | A2 | | 2324 | SURESH | 11 | C | 54435729 | SOCCER | A1 | | 2371 | MOHINI | 10 | C | 63363747 | CRICKET | B1 | | 2385 | SATISH | 12 | B | 97843782 | SOCCER | A2 | | 2408 | JATHIN | 11 | A | 68982360 | HOCKEY | B1 | | 2419 | VIKASH | 12 | B | 55129045 | CRICKET | A1 |   Give the output of the following SQL queries:   * 1. SELECT NAME, CLA FROM SPORTS   WHERE NAME LIKE 'D%' OR NAME LIKE 'S%';   * 1. SELECT NAME, GRADE FROM SPORTS WHERE GAME='SOCCER';   2. SELECT MAX(MOB), MIN(MOB) FROM SPORTS;   3. SELECT COUNT(\*), GAME FROM SPORTS GROUP BY GAME HAVING COUNT(GAME)<4;   4. SELECT NAME FROM SPORTS WHERE CLA LIKE ‘12%’; | | | | 5 |
| 40. | 1. Indian Public School in Darjeeling is setting up the network between the different wings. There are 4 wings names as Senior (S), Junior (J), Admin (A) and Hostel (H).   Distance between various wings Number of computers   |  |  |  |  |  | | --- | --- | --- | --- | --- | | Wing A to Wing S | 100m |  | Wing A | 10 | | Wing A to Wing J | 200m |  | Wing S | 200 | | Wing A to Wing H | 400m |  | Wing J | 100 | | Wing S to Wing J | 300m |  | Wing H | 50 | | Wing S to Wing H | 100m |  |  |  | | Wing J to Wing H | 450m |  |  |  |      1. Suggest a suitable Topology for Networking the computer of all wings 2. Name the wing where the server is to be installed. Justify your answer. 3. Suggest the placement of Hub/Switch in the network. 4. Which of the following will you suggest to establish the online face to face communication between the people in the Admin Office/Wing and Senior/Wing?   a) Cable TV b) Email c) Video Conferencing d) Text Chat  v) What is spam mail? | | | | 5 |

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