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| **PB1/IPHQP/1222/A 05-DEC-2022** | | | | | |
| **PRE-BOARD EXAMINATION - I (2022-23)** | | | | | |
| **Subject: Informatics Practices(H)**  **Grade: XII** | | | Max. Marks:70Time:3 hours | | |
| **Name:** | | **Section:** | | **Roll No:** | |
| ***General Instructions:***  1. This question paper contains five sections, Section A to E.  2. All questions are compulsory.  3. Section A have 18 questions carrying 01 mark each.  4. Section B has 07 Very Short Answer type questions carrying 02 marks each.  5. Section C has 05 Short Answer type questions carrying 03 marks each.  6. Section D has 03 Long Answer type questions carrying 05 marks each.  7. Section E has 02 questions carrying 04 marks each.  8. All programming questions are to be answered using Python Language only | | | | | |
|  | **SECTION A** | | | |  |
| 1 | \_\_\_\_\_\_\_\_ includes any visual symbol, word, name, design, slogan, label, etc., that distinguishes the brand or commercial enterprise, from other brands or commercial enterprises. | | | | 1 |
| 2 | The sum() function is an example of  a) math functions  b) date functions  c) aggregate functions  d) string functions | | | | 1 |
| 3. | Which of the network topology can be a preferred for a company that would like to keep  adding more and more computers to the topology economically as they grow? | | | | 1 |
| 4. | Name the two popular categories of public licenses. | | | | 1 |
| 5. | Write the command to delete the table structure and the data of the table ‘activity’ . | | | | 1 |
| 6. | What is the difference between Static and dynamic webpage? | | | | 1 |
| 7. | The command used to display a graph on your system   1. Plt.display() 2. Plt.showchart() 3. Plt.show() 4. Plt.showgraph() | | | | 1 |
| 8. | Rohan wants to print the column labels of the dataframe. He should use the\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_  attribute of a dataframe. | | | | 1 |
| 9. | Which networking device with similar functionality can be used to replace a hub? | | | | 1 |
| 10. | Which of the following statement/s will drop the column Grade from the dataframe Gr?   1. Gr.drop(‘Grade’) 2. Gr.drop(‘Grade’, axis=1) 3. Both 4. None of the above | | | | 1 |
| 11 | Full form of bcc in the context of email is \_\_\_\_\_\_\_\_\_\_\_\_\_\_. | | | | 1 |
| 12. | The axis 0 identifies a dataframe’s \_\_\_\_\_\_\_\_\_\_\_   1. rows 2. columns 3. values 4. datatype | | | | 1 |
| 13. | There is a table student having total number of rows /records is 50. The following command giving 48 as output. What could be the reason behind this?  Select count(commission) from employee; | | | | 1 |
| 14. | Find out the error in the following SQL command and correct the same.  Select \* from employee group by dept where sum(salary) > 2000000 | | | | 1 |
| 15. | Which of the following is not a math function   1. Pow() 2. Now() 3. Round() 4. Mod() | | | | 1 |
| 16. | What will be the output of the following program  import pandas as pd  s1=pd.Series(['1','2','3'],index=[1,2,3])  s2=pd.Series(['11','22','33'])  print(s1+s2) | | | | 1 |
| 17. | If series s1 is having following data,  import pandas as pd  s=pd.Series([1,2,3,4,5,6,7,8,9,10])  print(s[::-3])  What would the command print(s1[::-3]) result in? | | | | 1 |
| 18. | Assertion (A):- All pandas data structures are value-mutable (the values they contain can be altered) but not always size-mutable.  Reasoning (R): The length of a Series cannot be changed, but, for example, columns can be inserted into a DataFrame.   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 | Write a program in Python to create the series of all the alphabets of ''Wisdom'' with default index. Print the first three alphabets. | | | | 2 |
| 20 | What do you understand by the term VoIP ? Give two examples of software/apps based  on VoIP. | | | | 2 |
| 21 | **Give the output**   1. **Select round(35.6789,mod(6,2));** 2. **Select power(9, round(2.5));** | | | | 2 |
| 22 | Can we use Where clause after Group By clause ? Name the clause which is used to restrict the number of records returned by the Group By clause. | | | | 2 |
| 23 | Consider the following Series ‘s’  0 4.0  1 5.0  2 7.0  3 NaN  4 1.0  5 10.0  dtype: float64  (i) Write a Python code to add 1 to all the elements.  (ii) Rewrite the above code to add 1 to all the elements assuming NaN to be value 0. | | | | 2 |
| 24 | Given here is a Dataframe of Sales data of four months stored with name sales\_df.   1. Write a Python code to find total sales of July month. 2. Write a Python code to add the sales of August month with [70,94,80,93] data. | | | | 2 |
| 25 | Write any four net netiquettes you should follow while working with Internet. | | | | 2 |
|  | **SECTION C** | | | |  |
| 26. | Consider the following Dataframe happy\_df created using following command  happy\_df=pd.read\_csv("Dataset3.csv")   |  |  |  |  |  | | --- | --- | --- | --- | --- | | Country | Region | Happiness Rank | Happiness Score | Family | | Switzerland | Western Europe | 1 | 7.587 | 1.34951 | | Iceland | Western Europe | 2 | 7.561 | 1.40223 | | Denmark | Western Europe | 3 | 7.527 | 1.36058 | | Norway | Western Europe | 4 | 7.522 | 1.33095 | | Canada | North America | 5 | 7.427 | 1.32261 |  1. The command to display first five rows of the above Dataframe. 2. Write the command to display number of rows and columns of the above Dataframe 3. Which of the following commands would display maximum value of every column? | | | | 3 |
| 27. | Find the Output of following :  (i) select pow(length(“Team”),instr(“hello”,’l’));  (ii) select round(4567.132,-1);  (iii)select day(‘2020-04-09’); | | | | 3 |
| 28. | What do you understand by plagiarism? Why is it a punishable offence? Mention  any two ways to avoid plagiarism. | | | | 3 |
| 29. | Write the SQL command to create a table named student having following structure    Ishrar wants to execute the following commands but SQL showing error msg. Explain why  Insert into student(StudentID,Name,Class,Stream) values(44,”Ishan”, “XII”, “Non-Med”); | | | | 3 |
| 30. | Consider the below mentioned table of ‘CLOTH’  Dcode Description Price Mcode Launchdate  10001 Formal Shirt 1250 M001 12–Jan–08  10020 Frock 750 M004 09–Sep–07  10012 Informal Shirt 1450 M002 06–Jun–08  10019 Evening Gown 850 M003 06–Jun–08  10090 Tulip Skirt 850 M002 31–Mar–07  10023 Pencil Skirt 1250 M003 19–Dec–08  10089 Slacks 850 M003 20–Oct–08  Write the commands for the following:   1. Display the description after removing leading spaces if any. 2. Display number of characters taken by each description. 3. Display the day of the LAUNCHDATE. Eg. ‘Monday’, ’Tuesday’ etc | | | | 3 |
| 31. | Create the table shown below and answer the queries that follow  Relation – Student   |  |  |  |  |  |  | | --- | --- | --- | --- | --- | --- | | ROLLNO | NAME | BRANCH | D\_O\_B | FEE | SEMESTER | | E201 | JOHN | COMMERCE | 2002-09-21 | 6700 | I | | E202 | BABU | SCIENCE | 2001-12-23 | 2070 | II | | E203 | GEORGE | HUMANITIES | 2000-12-29 | 5700 | I | | E204 | JIBIN | COMMERCE | 2002-01-30 | 4500 | III | | E205 | VARGHESE | SCIENCE | 2000-08-19 | 6250 | I | | E206 | SOMAN | HUMANITIES | 2000-06-09 | 4620 | IV |  1. Display total Fee for semester I and II. 2. Display age of eldest student in the class 3. Display the number of available branches. 4. Display the average fees for each semester. 5. Display the number of students in third semester. | | | | 5 |
| 32. | Software Development Company has set up its new center at Raipur for its office and web based activities. It has 4 blocks of buildings named Block A, Block B, Block C, Block D.  **B**  **A**      **D**  **C**   |  |  | | --- | --- | | Block | Number of Computers | | A | 25 | | B | 50 | | C | 125 | | D | 10 |   Shortest distances between various Blocks in meters:   |  |  | | --- | --- | | Block A to Block B | 60m | | Block B to Block C | 40m | | Block C to Block A | 30m | | Block D to Block C | 50m |  1. Suggest most suitable place to house server of this company with proper reason. 2. Suggest the layout of connection between the blocks and identify the topology of the layout. 3. Suggest the placement of the Modem in the network with justification. 4. The company wants to design a website for its customers that can be changing the contents as per the responses of customers. What type of website static or dynamic can they design for this purpose? 5. What type of network would be formed if the Raipur office is connected to their New Delhi office? | | | | 5 |
| 33 | Consider the following graphs .      * Give title as Number of students * Label x axis as Number and y axis as class  1. Write code to create a line graph | | | | 3+2 |
|  | SECTION E | | | |  |
| 34. | Consider the following Dataframe named housing\_df.   |  |  |  |  |  | | --- | --- | --- | --- | --- | | Area\_type | Location | size | totalsqft | price | | Super built- up Area | Electronic City Phase | 2 BHK | 1056 | 39.07 | | Plot Area | Chikka Tirupathi | 4 BHK | 2600 | 120 | | Built-up Area | Uttarahalli | 3 BHK | 1440 | 62 | | Super built- up Area | Lingadheeranahalli | 3 BHK | 1521 | 95 | | Super built- up Area | Kothanur | 2 BHK | 1200 | 51 | | Super built- up Area | Whitefield | 2 BHK | 1170 | 38 |   Write a Python program to   1. Create the above Dataframe from a csv file named housing.csv and display it. Import necessary libraries. 2. Display the houses having price less than 50 lakhs. 3. Add a column vat which is 5% of price (given in lahks) | | | | 4 |
| 35 | Consider the table charity. Write the sql query     1. Display First 2 characters of Firstname and last 2 chars of Lastname. 2. Display Last name, contribution and a third column which has 10% contribution . Round it to two decimal points. 3. Display Last Names and First names of people who have "ON" in the second or third position in their first names. | | | | 4 |

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