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| Text  Description automatically generated  **PB2/EEEIPHQP 16-JAN-2023**  **EEE CONSORTIUM**  **PRE BOARD EXAMINATION – II (2022-23)**  **Sub: Informatics Practices [065]**  **Class-XII**  **TIME: 3 HOURS M.M.70** | | |
| **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. One internal choice is given in Q35 against part C only.  8. All programming questions are to be answered using Python Language only. | | |
|  | Internet is an example of \_\_\_\_\_\_\_topology.   |  |  | | --- | --- | | 1. Star | 1. Bus | | 1. Mesh | 1. Ring | | [ 1 ] |
|  | Deepa is a youtube content creator. She wanted some music for her upcoming video. She just downloaded few music files. Some of the files were not allowed to use freely. Deepa’s this act is known as:   |  |  | | --- | --- | | 1. Hacking | 1. Plagiarism | | 1. Copyright Infringement | 1. Cyber Crime | | [ 1 ] |
|  | Which of the following is one of the impacts of e-waste on the environment?   |  |  | | --- | --- | | 1. Global Warning | 1. Deforestation | | 1. Soil erosion | 1. Emission of gases | | [ 1 ] |
|  | Which of the following will give the same answer irrespective of the NULL values in the specified column.   |  |  | | --- | --- | | 1. MIN() | 1. MAX() | | 1. SUM() | 1. All of the above | | [ 1 ] |
|  | Aggregate functions are functions that take a \_\_\_\_\_\_\_\_\_\_\_ as input and return a single value.   |  |  | | --- | --- | | 1. Collection of values | 1. Single value | | 1. Scalar value | 1. Aggregate value | | [ 1 ] |
|  | \_\_\_\_\_\_\_Software available free of cost and also can be copied and redistributed but no source code is available.   |  |  | | --- | --- | | 1. Free and Open Software | 1. Open-Source Software | | 1. Proprietary Software | 1. Free Software | | [ 1 ] |
|  | Mahaveer has created a table book with following columns.  Bcode,bname,price,publication  He wants to display lowest price of book publication wise.He wrote following code.   1. SELECT MIN(PRICE) ,PUBLICATION FROM BOOK; 2. SELECT PUBLICATION ,MIN(PRICE) FROM BOOK GROUP BY PUBLICATION; 3. SELECT PUBLICATION ,MIN(PRICE) FROM BOOK GROUP BY PUBLICATION HAVING MIN(PRICE); 4. SELECT PUBLICATION ,PRICE FROM BOOK WHERE PRICE=(SELECT MIN(PRICE) FROM BOOK); | [ 1 ] |
|  | The NOW() function in MySql is an example of \_\_\_\_\_.   |  |  | | --- | --- | | 1. Numeric functions | 1. Text functions | | 1. Date functions | 1. Aggregate function | | [ 1 ] |
|  | Complete the query **select \_\_\_\_\_\_\_('2020-05-11')+7;** so that it returns 12   1. Date 2. Month 3. Year 4. Dayofweek | [ 1 ] |
|  | To count NaN as well as non NaN values in Series S we may write:   |  |  | | --- | --- | | 1. S.count() | 1. len(S) | | 1. S.len() | 1. count(s) | | [ 1 ] |
|  | The axis 1 identifies a dataframe’s \_\_\_\_\_\_\_\_\_\_\_.   |  |  | | --- | --- | | 1. rows | 1. columns | | 1. values | 1. dtype | | [ 1 ] |
|  | Which method is used to access vertical subset of a dataframe.?   |  |  | | --- | --- | | 1. iterrows() | 1. itercols() | | 1. iteritems() | 1. iterindex() | | [ 1 ] |
|  | \_\_\_\_\_\_\_websites are ones that are fixed and display the same content for every user.   |  |  | | --- | --- | | 1. Static | 1. XML page | | 1. Dynamic | 1. HTML page | | [ 1 ] |
|  | Which of the following is the correct syntax of LCASE( ) function?   |  |  | | --- | --- | | 1. LCASE(row\_name) | 1. LCASE(string/column\_name) | | 1. LCASE(string/column\_name) | 1. Both (b) and (c) | | [ 1 ] |
|  | This is a licence granting general permission to copy and reproduce intellectual property.   |  |  | | --- | --- | | 1. Copyright | 1. Copyleft | | 1. Trademark | 1. Patent | | [ 1 ] |
|  | Which of the following digital footprints can be created without the user's consent?   |  |  | | --- | --- | | 1. Active digital footprint | 1. Passive digital footprint | | 1. Massive digital footprint | 1. Interactive digital footprint | | [ 1 ] |
|  | Q17 and 18 are ASSERTION AND REASONING based questions. Mark the correct choice as  i. Both A and R are true and R is the correct explanation for A  ii. Both A and R are true and R is not the correct explanation for A  iii. A is True but R is False  iv. A is false but R is True |  |
|  | **Assertion (A):** The internet is a collection of interconnected computer networks.  **Reason (R):** World Wide Web is a collection of interconnected documents. | [ 1 ] |
|  | **Assertion (A):-**DataFrame has both a row and column index.  **Reasoning (R):** - A DataFrame is a two-dimensional labelled data structure like  a table of MySQL. | [ 1 ] |
|  | **PART B** |  |
|  | Differentiate between Plug ins page and Addons.  **OR**  Explain Star and Mesh topology along with the diagram. | [ 2 ] |
|  | Gopi Krishna is using a table EMPLOYEE. It has the following columns:  Code, Name, Salary, Dept code He wants to display maximum salary department wise.  He wrote the following command:  **SELECT Dept code, Max(Salary)**  **FROM EMPLOYEE:**  But he did not get desired result.  Rewrite the above query with necessary change to help him get the desired output. | [ 2 ] |
|  | What is the purpose of Group by clause in SQL? Explain with the help of suitable example. | [ 2 ] |
|  | Write a Python program to create a series that stores the marks of each subject. Assume there are 5 subjects “English”,”B.Studies”,”Accounts”,”Maths”,”Mktg” . The marks are 75,80,45,95,78 respectively. The index number will be the subject name. | [ 2 ] |
|  | As a citizen of India, what advice you should give to others for e-waste disposal?  OR  What is Identity theft? Write any two measures to reduce it. | [ 2 ] |
|  | What will be the output produced by the following programming statements 1 & 2?  import pandas as pd  S1=pd.Series(data=[31,41,51])  print(S1>40) **-->Statement1**  print(S1[S1>40]) **-->Statement2** | [ 2 ] |
|  | Consider the Data Frame below and answer the questions that follow.    a. Which command will produce the following output to extract only a part of data frame?    b. To display the record of Piyush | [ 2 ] |
|  | **SECTION C** |  |
|  | Write outputs for SQL queries (i) to (iii) which are based on the given table Teacher.    Write outputs for SQL queries (i) to (iii) which are based on the given table Teacher  i) select dayofmonth(Dateofadm) as "day" from Teacher where salary >30000;  ii)select mid(Department,2,4) from Teacher where name=”shyam”;  iii)selectmax(salary), min(salary) from Teacher where department=”maths”; | [ 3 ] |
|  | Write a program to create a dataframe countries using a dictionary which stored country name, capitals and populations of the country.  Country Name:["India","Canada","Australia"]  Capital: ["New Delhi","Ottawa","Canberra"]  Population : ["136 Cr","10 Cr","50 Cr"] | [ 3 ] |
|  | Consider the following DataFrame “df” and write the command for the following questions.  **Name UT1 UT2 UT3 UT4**  1 Prerna Singh 24 24 20 22  2 Manish Arora 18 17 19 22  3 Tanish Goel 20 22 18 24  4 Falguni Jain 22 20 24 20  5 Kanika Bhatnagar 15 20 18 22  6 Ramandeep Kaur 20 15 22 24   1. To add a new column, Grade with the values, ‘A’, ‘B’, ‘A’, ‘A’, ‘B’, ‘A’ to the DataFrame. 2. To display the UT1,UT3 column of Tanish Goel. 3. To add new record of Navya Jain,30,87,67,45, A. | [ 3 ] |
|  | Priyanka is using her internet connection to book a flight ticket. This is a classic example of leaving a trail of web activities carried by her.   1. What do we call this type of activity? 2. What are the types of this activity? 3. What is the risk involved by such kind of activity?   OR  What do you understand by Intellectual Property Rights? Why is there a need  to protect Intellectual Property Rights? | [ 3 ] |
|  | Consider the following relation named “Vehicles”    Write SQL commands based on above relation to:   1. Display the average price of each type of vehicle having total numbers of cars more than 1. 2. Count the type of vehicles manufactured by each company. 3. Display the total price which is price \*qty of all the types of vehicles.   **OR**  Discuss the significance of Group by clause in detail with the help of suitable example. | [ 3 ] |
|  | **SECTION D** |  |
|  | Write SQL queries for the following:   1. To display the name of the month of the current date. 2. To remove spaces from the beginning and end of a string, “ Digital Footprint “. 3. To display the name of the day eg, Friday or Sunday from DOB of empl table. 4. To print the position of the word ‘que’, from “Nettiquettes”. 5. To compute the remainder of division between two numbers, 45 and 4,   OR  Explain the following SQL functions using suitable examples.   1. LCASE() 2. LTRIM() 3. POW() 4. YEAR() 5. NOW() | [ 5 ] |
|  | Sheetal Development Company has set up its new center at Jaipur for its office and web-based activities. It has 4 blocks of buildings named Block A, Block B, Block C, Block D.    Shortest distances between various Blocks in meters:     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.   (iv) 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?  (v) What type of network would be formed if the Raipur office is connected  to their New Delhi office which is more than 1250km from Raipur.   Which type of network out of LAN, MAN, or WAN will be formed?  Justify your answer. | [ 5 ] |
|  | Write a script to draw a line chart by importingappropriatepackage:   1. The title of the bar chart is ‘ STUDENT MARKS’ 2. name=[‘AJIT’, ‘DEV’, ‘RAJA’, ‘KOKILA’, ‘GIA’] X-axis 3. marks=[88, 78, 76, 43, 85] as the values fory-axis 4. Label x-axis as’Names’ 5. Label y-axis as’Marks’ 6. Plot the barchart 7. Display the bar chart on thescreen   OR  Create a line Graph | [ 5 ] |
|  | Consider the table charity. Write the sql query     1. Display First 2 characters of City and Person ID. 2. Display Last name, contribution and a third column which has contribution divided by 10. Round it to two decimal points. 3. Display Last Names and First names of people who have “at” in the second or third position in their first names. | [1+1+2] |
|  | Consider the following DataFrame STAFF:    Here, ID of the staff are row labels and  Personal details (Name, Age, Designation) are the column labels.  Answer the following questions based on the above dataframe:  Predict the output of the following python statement:   1. print(df.loc[‘T102’:’T103’,[“Name”,”Designation”]]) 2. df.rename(index={“T100”:101,”T101”:102, “T012”:”103”, “T103”:104,”T104”:105})   print(df)  B. Write a python code to Display the name and designation of employees whoseage more than 40 and less than 50  **OR (Option for part B only)**  Write a python code to change the designation of Shyam to Vice Principal. | [1+1+2] |

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