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| **PB1/IPCAK/1223/B 20-NOV-2023** | | | |
| **PREBOARD EXAMINATION – I (2023-24)**  **(ANSWER KEY)** | | | |
| **SUBJECT: INFORMATICS PRACTICES (C )**  **GRADE: XII** | | MAX. MARKS: 70TIME:3 HOURS | |
|  | **SECTION A** | |  |
| 1 | 1. Absolute & Relative | | 1 |
| 2 | c) aggregate functions | | 1 |
| 3. | b) Repeater | | 1 |
| 4. | 1. COUNT(\* ) | | 1 |
| 5. | d) Mesh topology | | 1 |
| 6. | b) s[0] | | 1 |
| 7. | a) Phishing | | 1 |
| 8 | b) 3235 | | 1 |
| 9. | c) Series | | 1 |
| 10. | b)2 | | 1 |
| 11. | a) length | | 1 |
| 12. | b)VOIP | | 1 |
| 13. | c) S=pd.Series(Monument,index=State) | | 1 |
| 14. | b)  a NaN  v -1.0  w 2.0  x NaN  y 2.0  z 8.0  dtype: float64 | | 1 |
| 15. | 1. Month | | 1 |
| 16. | a) 1 | |  |
| 17. | ii Both A and R are true and R is not the correct explanation for A | |  |
| 18. | ii Both A and R are true and R is not the correct explanation for A | |  |
|  | **SECTION B** | |  |
| 19. | On the hardware side, a web server is **a computer that stores web server software and a website's component files** (for example, HTML documents, images, CSS stylesheets, and JavaScript files). A web server connects to the Internet and supports physical data interchange with other devices connected to the web.  Or  **white hat hackers work to find and fix security problems in a system, black hat hackers exploit weaknesses for self-serving reasons, including financial gain, revenge or enjoyment**. Using tools such as viruses, malware and spyware, malicious hackers can gain information and use it for criminal purposes. | | 2 |
| 20. | Anjali writes the following commands with respect to a table employee having fields, empno,name, department, commission.  Command1 : Select count(\*) from employee;  Command2: Select count(commission) from employee;  She gets the output as 4 for the first command but gets an output 3 for the second command. Explain the output with justification. | | 2 |
| 21. | Given two series S1 and S2  S1 S2  A 39 A 10  B 41 B 10  C 42 D 10  D 44 F 10  Find the output for following python pandas statements?  a. S1[ : 2]\*100  b. S1 \* S2 | | 2 |
| 22. | Ritika is a new learner for the python pandas, and she is aware of some concepts of python. She has created some lists, but is unable to create the data frame from the same. Help her by identifying the statement which are blank  **Inport pandas as pd**  Name=['Manpreet','Kavil','Manu','Ria']  Phy=[70,60,76,89]  Chem=[30,70,50,65]  **D={“Name”:Name,”Phy”:phy,”chem”:chem}**  **Df= pd.DataFrame(D)** | | 2 |
| 23. | a) To upload a file on remote server, the protocol needed is \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_**FTP\_**\_\_\_\_\_\_.  b)Mr. Ram is not able to identify the web page in the given URL. Identify and write it for him. [http://www.cbsenic.in/**aboutus.htm**](http://www.cbsenic.in/aboutus.htm) | | 2 |
| 24. | 2 55  Dtype int | | 2 |
| 25. | Consider the following DataFrame df and answer the questions.  Name Mark1 Mark2  0 Aamir 22 33  1 Nuzut 42 52  2 Ishrar 34 23  3 Shahid 45 65  4 Furkan 23 56  5 Fatima 45 45  6 Rashid 34 45   1. S[“total’]=s[“marks1”]+s[“marks2”] 2. Print(df[[“name”,”total”]]) | | 2 |
|  | **SECTION C** | |  |
| 26. | Help Mr.Rao in Predicting the output of the following:   1. 1 2. fo 3. 3 | | 3 |
| 27. | Import pandas as pd  D={“name”:[“Shantanu”,”Fiona”,”arshneel”,”Raghuveer”], “age”:[45,23,45,34],”sports”:[“basketball”,”table tennis”,”badminton”,”football”]}  Df=pd.Dataframe(D) | | 3 |
| 28. | i) df.loc[0:1,:]  ii) df.drop(columns=”price” axis=1)  iii)print(df.coloumns) | | 3 |
| 29. | 1. Cloud Server. Google docs are the word documents on cloud which can be edited by all simultaneously 2. Libre is open office. Means the source code is available for editing and its free available. 3. Mozzilla Firefox   or  Write the differences between the following —  a) Copyright is an automatic right which protects original literary, dramatic, musical and artistic works. A Patent is a registered right that gives the owner exclusive right to features and processes of inventions.  b) A passive footprint is made when information is collected from the user without the person knowing this is happening. An active digital footprint is where the user has deliberately shared information about themselves either by using social media sites or by using websites. | | 3 |
| 30. | 1.**left(Name,3)**  Shr  Ash  Rit  Sau  2.MID(STREAM,2,3)  Cie  Uma  Omm  3. Students in optional Optional  1 CS  2 Msths  3 IP  or  Based on the table given above, help Mrs. Dutta writing queries for the following task:   1. Select name from student where average=max(average) 2. Select name from student where name like’\_ \_i%”   iii) select name from student where average>60; | | 3 |
|  | **SECTION – D** | |  |
| 31. | * + 1. Select sum(salary) from employee where zone=”west”     2. To count no of employees without any grade.   iii.To display zone wise highest salary and lowest salary.  iv. Give the degree and cardinality of the table. | | 4 |
| 32. | Mr. Ankit is working in an organization as data analyst. He uses Python Pandas and Matplotlib for the same. He got a dataset of the passengers for the year 2010to 2012 for January, March and December. His manager wants certain information from him, but he is facing some problems. Help him by answering few questions givenbelow:   |  |  |  |  |  |  | | --- | --- | --- | --- | --- | --- | |  | **Year** | **Month** | **Passenger(I)** | **Passenger(II)** | **Code** | | **A** | 2010 | Jan | 25 | 12 | A01 | | **B** | 2010 | March | 50 | 5 | A02 | | **C** | 2012 | Jan | 35 | 13 | A03 | | **D** | 2010 | Dec | 55 | 17 | A04 | | **E** | 2012 | Dec | 65 | 13 | A05 | | **F** | 2015 | Jan | 34 | 23 | A08 |  1. Predict the output of the following python statement: 2. df.shape 3. df[1:3] 4. Write Python statement to display the data of Month column of indexes C to E.   **OR (Option for part B only)**  Write Python statement to compute and display the difference of data of Passenger(I) column and Passenger (II) column of the above given DataFrame. | |  |
|  | **SECTION – E** | |  |
| 33. | Write SQL queries for the following:   1. Select \* from person orderby salary desc; 2. Select address , count(\*) from person group by address; 3. Select address, sum(salary) from person group by address 4. Select address, max(DOB) from person groupby address 5. Select name, salary\*12 from person   OR  ( i)9876.99+15999;   1. Max salary   159999  Min salary  6575.99   1. (12345.50+6575.99)/2 2. No output 3. Length(drivername)   13  11 | | 5 |
| 34. | 1. STAR TOPOLOGY 2. Administrative office in the centre and other buildings around connected with star topology. 3. Factory B 4. Suggest the placement of the following devices with justification: 5. Whereevr the distance is more than 100 m 6. In every building , hub and switch is to be installed. 7. VOIP | | 5 |
| 35. | import matplotlib.pyplot as plt  import pandas as pd  height=[121.9,124.5,129.5,134.6,139.7,147.3,152.4,157.5,162.6]  weight=[19.7,21.3,23.5,25.9,28.5,32.1,35.7,39.6,43.2]  df=pd.DataFrame({"height":height,"weight":weight})  plt.xlabel('Weight in kg')  s.plot() or df.plot()  plt.ylabel('Height in cm')  plt.title('Average weight with respect to average height')  plt.plot(df.weight,df.height,marker='\*',markersize=10,color='green  ',linewidth=2, linestyle='dashdot')  plt.show()  OR | | 5 |
|  | Create a bar Graph as shown in below pic | |  |

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