KENDRIYA VIDYALAYA SANGATHAN : BHUBANESWAR REGION
PRE-BOARD EXAMINATION 2022-23 CLASS XII INFORMATICS PRACTICES (065)
TIME: 3 HOURS
M.M. 70

MARKING SCHEME

| Q | SECTION-A | Marks |
| :---: | :---: | :---: |
| 1. | Which device is used to regenerate the signals over long distance data transmission: <br> i. Switch <br> ii. Modem <br> iii. Repeater <br> iv. None of the above <br> Answer: (iii) Repeater, 1 mark for correct answer | 1 |
| 2. | Whenever we surf the Internet using smartphones we leave a trail of data reflecting the activities performed by us online, which is our? <br> i. Data print <br> ii. Digital activity <br> iii. Digital footprint <br> iv. Digital print <br> Answer: (iii) Digital Footprint, 1 mark for correct answer | 1 |
| 3. | Unsolicited commercial emails is known as ..............?   <br> i. Spam  <br> ii. Malware  <br> iii. Virus  <br> iv. Worms  <br>  Ans (i), Spam 1 mark for correct answer  | 1 |
| 4. | Find the output for the below sql statement: <br> Select substr("BoardExam@2021", 4, 7); <br> i. ardExam <br> ii. dExam@2 <br> iii. rdExam <br> iv. rdExam@2 <br> Answer: (iv) 1 mark for correct answer | 1 |
| 5 | What is the output of following : <br> Select Round(19999.299,-1); <br> i. 199999.3 <br> ii. 20000.299 <br> iii. 2000 <br> iv. 20000 <br> Answer:(iv) 1 mark for correct answer | 1 |


| 6. | Which of the following is Net Etiquette? <br> i. Be Ethical <br> ii. Be Responsible <br> iii. Be Respectful <br> iv. All of the above <br> Answer (iv) All of the above, 1 mark for correct answer | 1 |
| :---: | :---: | :---: |
| 7. | Which keyword is used to arrange the result of order by clause in descending order? <br> i. DSEC <br> ii. ASCE <br> iii. DESC <br> iv. ASC <br> Answer: (iii) DESC, 1 mark for correct answer | 1 |
| 8. | Which one of the following is a string function? <br> i. COUNT() <br> ii. SUBSTR() <br> iii. $\operatorname{MOD}()$ <br> iv. MAX() <br> Answer (ii) SUBSTR(), 1 mark for correct answer | 1 |
| 9. | Which one of the following functions is used to count the no of rows from the given table in MySQL? <br> i. COUNT(*) <br> ii. CARDINALITY() <br> iii. COUNT(Column name ) <br> iv. All the above <br> Answer: (i) COUNT(*), 1 mark for correct answer | 1 |
| 10. | To display First 15 rows of a series object 'Ser1', you may write: <br> i. Ser1.tail(15) <br> ii. Ser1.head() <br> iii. Ser1.head(15) <br> iv. Ser1.tail() <br> Answer : (iii) Ser1.head(15), 1 mark for correct answer | 1 |
| 11. | Which of the following statement will install pandas library in python? <br> i. Pip install pandaspd <br> ii. pip install pandas as pd <br> iii. pip install pandas.pd <br> iv. pip install pandas <br> Answer: ( iv) pip install pandas, 1 mark for correct answer | 1 |
| 12 | Which protocol allow us to have voice calls over the internet? <br> i. HTTP <br> ii. VoIP <br> iii. Video Chat <br> iv. SMTP <br> Answer: (ii) VoIP, 1 mark for correct answer. | 1 |
| 13 | Which one is False about MAC address? <br> i. It is Physical Address of any device connected to the internet. <br> ii. We can change MAC address of a device. <br> iii. It is the address of NIC card install in network device. <br> iv. It is used for track the user's over internet. <br> Answer: (ii) 1 mark for correct answer. | 1 |
| 14 | Which one of the following is an output for SQL statement given below: <br> SELECT DAYNAME('2022-12-07'); <br> i. MONDAY <br> ii. WEDNESDAY <br> iii. SATURDAY <br> iv. FRIDAY <br> Answer: (ii) WEDNESDAY, 1 mark for the correct answer | 1 |



| 20 | Anjali writes the following commands with respect to a table employee having fields, empno, name, department, commission. <br> Command1:Select count(*) from employee; <br> Command2: Select count (commission) from employee; <br> She gets the output as 4 for the first command but gets an output 3 for the second command. Explain the output with justification. <br> Answer: <br> This is because the column commission contains a NULL value and the aggregate functions do not take into account NULL values. Thus Command1 returns the total number of records in the table whereas <br> Command2 returns the total number of non <br> NULL values in the column commission. | 2 |
| :---: | :---: | :---: |
| 21 | What is the difference between the order by and group by clause when used along with the select statement. Explain with an example. <br> Answer: <br> The order by clause is used to show the contents of a table/relation in a sorted manner with respect to the column mentioned after the order by clause. The contents of the column can be arranged in ascending or descending order. <br> The group by clause is used to group rows in a given column and then apply an aggregate function eg $\max ()$, $\min ()$ etc on the entire group. <br> (any other relevant answer) <br> 1 mark for correct explanation 1 mark for appropriate example | 2 |
| 22 | Consider a given Series, M1. Write a program in Python Pandas to create the series. <br> Answer: <br> import pandas as pd <br> M1 =pd.Series([45,65,24,89], index=['term1','term2','term3','term4']) <br> $1 / 2$ mark for import statement <br> $1 / 2$ mark for usage of Series () <br> $1 / 2$ mark for stating index as a list <br> $1 / 2$ mark for creating object m 1 | 2 |
| 23 | List any two health hazards related to excessive use of Technology. <br> OR <br> Priya is using her internet connection to book a train ticket. This is a classic example of leaving a trail of web activities carried by her. What do we call this type of activity? What is the risk involved by such kind of activity? <br> Answer: <br> The continuous use of devices like smartphones, computer desktop, laptops, head phones etc cause a lot of health hazards if not addressed. These are: <br> i. Impact on bones and joints: wrong posture or long hours of sitting in an uncomfortable position can cause muscle orbone injury. <br> ii. Impact on hearing: using headphones or earphones for a prolonged time and on high volume can cause hearing problems and in severe cases hearing impairments. <br> iii. Impact on eyes: This is the most common form of health hazard as prolonged hours of screen time can lead toextreme strain in the eyes. | 2 |


|  | iv. Sleep problem: Bright light from computer devices block a hormone called melatonin which helps us sleep. Thus we can experience sleep disorders leading to short sleep cycles. <br> 2 marks for any two correct points <br> OR <br> We call this type of activity as Digital Footprints <br> Risk involved : <br> It includes websites we visit emails we send, and any information we submit online, <br> etc., along with the computer's IP address, location, and other device specific details. Such data could be used for targeted advertisement or could also be misused or exploited. <br> 1 mark for naming the activity <br> 1 mark for mentioning any one risk |  |
| :---: | :---: | :---: |
| 24 | Given two series S1 and S2 <br> Find the output for following python pandas statements? <br> a. $\mathrm{S} 1[: 2]^{*} 100$ <br> b. $\mathrm{S} 1 * \mathrm{~S} 2$ <br> Answer: <br> a. $\mathrm{A} \quad 3900$ <br> B 4100 <br> b. A 390 <br> B 410 <br> C NaN <br> D 440 <br> F NaN <br> 1 mark for each correct output | 2 |
| 25 | Consider the following DataFrame, DF <br> Write commands to : <br> i. Add a new column 'Stream' to the Dataframe with values (Science, Commerce, Arts, Science.) <br> ii. Add a new row with values ( 5 , Mridula ,X, F , 9.8, Science) <br> Answer: <br> i. DF['Activity']=['Science','Commerce ','Arts', 'Science'] <br> ii. DF.loc['St5']=[1,'Mridula', 'X', 'F', 9.8, 'Science'] <br> 1 mark for each correct answer. | 2 |
|  | SECTION -C |  |
| 26 | TABLE NAME : PHARMADB | 3 |


|  |  | DrugName <br> Amlodipine <br> Paracetamol <br> NebiStar <br> VitaPlus <br> Levocitrezine <br> ve table "PHA <br> CT SUBSTR(Dr <br> CT DRUGNAME <br> CT ROUND ( Pr <br> E Location= 'D <br> dipine <br> itrezine <br> orrect output | Manufacture <br> Date <br> $2019-02-11$ <br> $2011-05-07$ <br> $2021-06-02$ <br> $2019-03-01$ <br> 2018-04-12 <br> ADB", Write out <br> ame ,5,4) FROM OM PHARMA <br> 1) FROM PUR | Price 100.97 150.25 160.27 150.81 110.23 ts for SQ RMADB WHERE D | PharmacyName <br> Rx Pharmacy <br> Raj Medicos <br> MyChemist <br> MyChemist <br> RxPharmacy <br> mands to i to ii <br> RE PRICE>160; <br> ManufactureDate)> | Location <br> Delhi <br> Haryana <br> Delhi <br> Goa <br> Mumbai |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| 27 |  | owing DataFra <br> Hospitals <br> 189 <br> 208 <br> 149 <br> 157 <br> das code to cre <br> pd <br> i','Mumbai','K <br> 89,208,149,15 <br> ataFrame(d1) <br> ct import statem <br> t dictionary <br> t use Datafram atement | "HOSPITAL" <br> chools <br> 7916 <br> 8508 <br> 7226 <br> 7617 <br> the above data <br> ata','Chennai' <br> 'Schools':[7916, <br> ethod | e HOSPI <br> ,7226,76 |  |  | 3 |
| 28 |  | _DF':  <br> me marks <br> vni 97.5 <br> shi 98.0 <br> eet 98.5 <br> ul 98.0 <br> wing operation $v$ row in datafr f rows and col w for rollno 307 <br> F.loc[4,:]= $[44$ TU_DF.shape) DF.drop (2, axis correct statem | the DataFram STU_DF with s in dataframe <br> aran',88.0] | DF: <br> ues [444, _DF <br> DF.loc | $\text { ' } \left.{ }^{\prime}, 88.0\right]$ <br> 444,'karan',88.0] |  | 3 |
| 29 | $\begin{array}{c}\text { Identify the typ } \\ \text { i. }\end{array} \begin{array}{r}\text { A per } \\ \text { accou }\end{array}$ | of cybercrime f complains tha online via some | he following si 4.25 lacs hav ine transaction | ns: <br> fraudu <br> wo days | solen from his NET BANKIN |  | 3 |


|  | ii. A person complains that his/her debit/credit card is safe with him still somebody has done shopping /ATM transaction on this card. <br> iii. A person complains that somebody has created a fake profile of Facebook and defaming his/her character with abusive comments and pictures <br> OR <br> As a citizen of India, what advice you should give to others for e-waste disposal ? Define them In details. <br> Answer: <br> i. Bank Fraud <br> ii. Identity Theft <br> iii. Cyber Stalking <br> 1 mark for each correct type <br> OR <br> As a citizen of india, We can advice the following principle of waste management: Reduce, Reuse and Recycle. <br> 1 mark for each correct advice with explanation. |  |  |  |  |  |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| 30 | Consider the following sql table 'automobile' <br> Write SQL queries using SQL functions to perform the following operations: <br> i. Display company name and body wheel base after rounding off to nearest ten's decimalplaces. <br> ii. Display the position of occurrence of the string "dan" in body style. <br> iii. Display the year of manufacturing for sedan; <br> OR <br> Helps Abhay to Compare Having clause and Order by clause with the help of example? <br> Answer: <br> i. Select company, round(wheel-base,-1) from automobile; <br> $1 / 2$ mark each for correct usage of Select and round() <br> ii. Select instr(body-style,' 'dan') from automobile; <br> $1 / 2$ mark each for correct usage of Select and instr() <br> iii. Select year(dateofmanufacture) from automobile where body-style='sedan'; <br> $1 / 2$ mark each for correct usage of Select and year() <br> OR <br> Having clause is used in conjunction with group by clause in MySQL. It is used to provide condition based on grouped data. On the other hand, order by clause is an independent clause used to arrange records of a table in either ascending or descending order on the basis of one or more columns <br> 2 marks for correct explanation and 1 mark for example. |  |  |  |  |  |  |  |  |  |
|  | SECTION-D |  |  |  |  |  |  |  |  |  |
|  | Write the SQL functions which will perform the following operations: <br> i) To display the name of the month of the current date . <br> ii) To remove spaces from the beginning and end of a string, " <br> Panorama <br> iii) To display the name of the day eg, Friday or Sunday from your date of birth, dob. <br> iv) To display the starting position of your first name(fname) from your whole name (name). <br> v) To compute the remainder of division between two numbers, n 1 and n 2 <br> OR |  |  |  |  |  |  |  |  |  |

Define the following functions
i. LTRIM()
ii. MID()
iii. $\operatorname{MOD}()$
iv. NOW()
v. INSTR()

Answer:
i. Select monthname(date(now()));
ii. Select trim(" Panaroma "):
iii. Select dayname(date(dob))
iv. Select instr(name, fname);
v. Select $\bmod (\mathrm{n} 1, \mathrm{n} 2)$

1 mark for each correct answer
OR1 mark for each definition of MYSQL funcytion
SHARMA Medicos Center has set up its new center in Delhi . It has four buildings as shown in the diagram given below:


Distance between various building are as follows:

| Accounts to research Lab | 55 m |
| :--- | :--- |
| Accounts to store | 150 m |
| Store to packaging unit | 160 m |
| Packaging unit to research lab | 60 m |
| Accounts to packaging unit | 125 m |
| Store to research lab | 180 m |



Number of Computers

| Accounts | 25 |
| :--- | :--- |
| Research Lab | 100 |
| Store | 15 |
| Packaging Unit | 60 |

As a network expert, provide the best possible answer for the following queries:
i. Suggest a cable layout of connections between the buildings.
ii. Suggest the most suitable place (i.e. buildings) to house the server of this organization.
iii. Suggest the placement of the following device with justification:
a) Repeater
b) $\mathrm{Hub} / \mathrm{Switch}$
iv. Suggest a system (hardware/software) to prevent unauthorized access to or from the network.
v. The company is planning to link its head office situated in Delhi with the offices in hilly areas. Suggest a way to connect it economically.
Answer:
i. 1 mark for correct layout
ii. Research Lab
iii. Repeater: Between Accounts and Store, Hub/Switch in each block
iv. Firewall
v. Radio Wave

1 mark for each correct answer or for any other relevant answer
33 Observe the following figure. Identify the coding for obtaining this as output.


|  | Also give suitable python statement to save this chart OR <br> Write a Python program to display a bar chart of the popularity of programming Data: <br> Programming languages: Java, Python, PHP, JavaScript, C\#, C++ Popularity: 22.2, 17.6, 8.8, 8, 7.7, 6.7 <br> Also give suitable python statement to save this chart <br> Answer: <br> a) import matplotlib.pyplot as plt <br> eng_marks=[10,55,30,80,50] <br> st_name=["amit","dinesh","abhishek","piyush","rita"] <br> plt.plot(st_name,eng_marks) <br> plt.show() <br> plt.savefig("aa.jpg") <br> 1 mark for correct import sattement <br> 1 mark for correct declaration of marks and names <br> 1 mark for correct use of plot method <br> 1 mark for correct use of show method <br> 1 mark for corect use of savefigmethod <br> import matplotlib.pyplot as plt <br> x = ['Java', 'Python', 'PHP', 'JavaScript', 'C\#', 'C++'] <br> popularity $=[22.2,17.6,8.8,8,7.7,6.7]$ <br> plt.bar(x_pos, popularity) <br> plt.xlabel("Languages") <br> plt.ylabel("Popularity") <br> plt.title("PopularitY of Programming Language Worldwide") <br> plt.show() <br> plt.savefig(‘CS.jpg’) <br> $1 / 2$ mark for each correct statement <br> 1 mark for correct savefig method |  |  |  |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  |  |  |  | SECTION -E |  |  |  |  |
| 34 | Consider the | able CLUB given | below: |  |  |  |  |  |
|  | COACH_ID | COACHNAME | AGE | SPORTS | DATOFAPP | PAY | SEX |  |
|  | 1 | KUKREJA | 35 | KARATE | 1996-03-27 | 10000 | M |  |
|  | 2 | RAVINA | 34 | KARATE | 1997-01-20 | 12000 | F |  |
|  | 3 | KARAN | 34 | SQUASH | 1998-02-19 | 20000 | M |  |
|  | 4 | TARUN | 33 | BASKETBALL | 1998-01-01 | 15000 | M |  |
|  | 5 | ZUBIN | 36 | SWIMMING | 1998-01-12 | 7500 | M |  |
|  | Answer the for  <br> i. Writ <br> ii. Writ <br> iii. Writ <br> iv. Writ <br> Answer:  <br> i. SELEC <br> ii. SELEC <br> iii. SELE <br> iii. SELEC <br>  2 mark | lowings based on ql quesry to displ ql query to displa ql query to displa OR QLL query to disp <br> T AGV(PAY) FR T MONTH(DATE for each correct q T * FROM CLUB OR SPORTS,MAX reach correct que | above the ave month he deta <br> game <br> M CLU OFAPP) ry <br> NHERE <br> Y) RO | ysql table 'CLUB' ge pay for karate date of appointm of male coach in ise maximum pay <br> WHERE SPORT ROM CLUB; <br> EX='M' ORDE <br> CLUB GROUP | DATEOFAPP ding order of $t$ caoches. <br> ARATE'; <br> AGE ASC; <br> PORTS; |  |  |  |
| 35 | Consider the | llowing DataFram | ClassD | with row index S | ,St3,St4 |  |  | $2^{1+1+}$ |



