

KENDRIYA VIDYALAYA SANGTHAN
JABALPUR REGION
FIRST PREBOARD EXAMINATION 2022-23
CLASS XII
INFORMATICS PRACTICES (065)

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 Q 35 against part c only.
8. All programming questions are to be answered using Python Language only.

PART A		
1.	There are numerous websites, which provide search facility for searching the contents on a) Internet b) Website c) Web Page d) LAN	1
2.	It is an act of copying another person's data idea, words or work and pretended that they are our own. a) Copyright b) Virus c) Plagiarism d) IPR	1
3.	Feasible method(s) to manage e-Waste. a) Reducing b) Reusing c) Recycling d) All of these	1
4.	Which type of values will not be considered by SQL while executing the following statement? SELECT COUNT(column name) FROM INVENTORY; a) Numeric value b) Text value c) Null value d) Date value	1
5.	In column "Margin" contains the data set (2.00, 2.00, NULL, 4.00, NULL, 3.00, 3.00) what will be the output of after the execution of the given query? SELECT AVG(Margin) FROM SHOP; a) 2.9 b) 2.8 c) 2.00 d) All of these	1
6.	'P' in IPR stands for a) Proprietary b) Platform c) Patent d) Property	1
7.	Which of the following is not a category of MySQL functions? a) Text Functions b) Mathematical Functions c) Statistical Functions	1

	d) Arithmetic Functions	
8.	What is the output of the following SQL Command : SELECT ROUND(458.45,-1) a) 460 b) 450 c) 458 d) 500	1
9.	Which of the following function is the correct syntax of LCASE() function? a) LCASE(row_name) b) LCE(column_name) c) LCASE(str/column_name) d) None of the above	1
10.	To display Third Element of a Series object S, you will write : a) S[:3] b) S[2] c) S[3] d) S[:2]	1
11.	Which of the following statement is wrong in context of DataFrame? a) Two dimensional size is Mutable b) Can perform Arithmetic operators on rows and columns. c) Homogeneous tabular data structure d) Create Dataframe from numpy ndarray	1
12.	Which attribute is not used with Dataframe? a) size b) column c) empty d) type	1
13.	An online discussion group that allow direct live communication is known as a) e-mail b) Hyperlink c) Chat group d) Web Crawler	1
14.	Which function extracts the date value from a date. a) CURRENT() b) NOW() c) SYSDATE() d) DATE()	1
15.	What is the name of the IT law that India is having in the Indian Legislature? a) India's Technology(IT) Act,2000 b) India's Digital Information Technology(DIT),Act,2000 c) India's Information Technology(IT),Act ,2000 d) The Technology Act,2008	1
16.	Which of the following are automatically granted to creators and authors? a) Copyright b) Patent	1

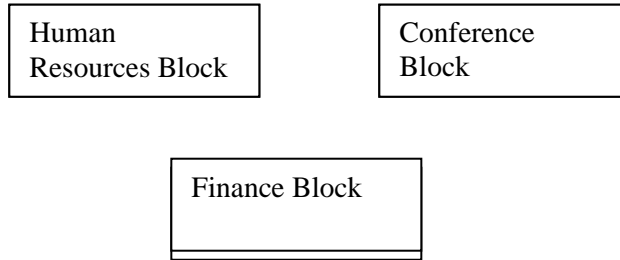
	c) Trademark d) Netiquette											
	Q17 and 18 are ASSERTION AND REASONING based questions. Mark the correct choice as i. Both A and R are true and R is the correct explanation for A ii. Both A and R are true and R is not the correct explanation for A iii. A is True but R is False iv. A is false but R is True											
17.	ASSERTION (A): E-waste can be toxic and harmful for nature REASONING(R): E-Waste that do not organically break down can, over time, can seep directly into the environment	1										
18.	ASSERTION(A): drop() function removes data from a Dataframe temporarily. REASONING(R): Axis parameter is compulsory with drop() function.	1										
	PARTB											
19	What is a Website and Webpage? OR What is a network? Why is it needed?	2										
20	Gopi Krishna is using a table Employee .it has the following Columns: Code,Name,Salary,Deptcode SELECT Deptcode,MAX(Salary) FROM Employee; He wants to display maximum salary department wise. But he did not get the desired result .Rewrite the above query with necessary change to help him get the desired result.	2										
21.	How are NULL values treated by aggregate functions?	2										
22.	Consider the given Series object Subject: <table border="1" style="margin-left: 20px;"> <tr> <td>Index</td> <td>Marks</td> </tr> <tr> <td>English</td> <td>75</td> </tr> <tr> <td>Hindi</td> <td>78</td> </tr> <tr> <td>Math</td> <td>82</td> </tr> <tr> <td>Science</td> <td>88</td> </tr> </table> Write a program in python pandas to create this series using a dictionary.	Index	Marks	English	75	Hindi	78	Math	82	Science	88	2
Index	Marks											
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23.	Name the methods for proper treatment of e-waste. OR What is meant by digital footprint and how to manage it suggest any two guidelines.	2										
24.	What will be the output of the following code: >>>import pandas as pd >>>nums=pd.Series([9,8,7,6,5],index=range(0,10,2))	2										

	>>>print(nums[1:3])																																																									
25.	<p>Consider the code given below and answer the following question:</p> <pre>Ld=[{'a':10,'b':20},{'a':5,'b':10,'c':20}] df=pd.DataFrame(Ld) print(df)</pre> <p>i) Write the missing import statement in the above code. ii) How many columns will be there in the dataframe.</p>	2																																																								
	SECTION C																																																									
26.	<p>Write a python code to create a DataFrame with appropriate column headings from the list given below:</p> <pre>[[201,'Gurmeet',95],[202,'Praveen',89],[203,'Suman',97],[204.'Yogesh',91]]</pre>	3																																																								
27.	<p>Consider the given DataFrame 'Fees':</p> <table border="1" style="margin-left: auto; margin-right: auto;"> <thead> <tr> <th></th> <th>Cname</th> <th>Fee</th> </tr> </thead> <tbody> <tr> <td>0</td> <td>XII</td> <td>3500</td> </tr> <tr> <td>1</td> <td>XI</td> <td>3000</td> </tr> <tr> <td>2</td> <td>X</td> <td>2700</td> </tr> <tr> <td>3</td> <td>VII</td> <td>1800</td> </tr> </tbody> </table> <p>Write suitable Python statements for the following:</p> <p>i. Add a column called 'Section' with the following data: ['A','B','C','D'].</p> <p>ii. Add a new Class Name named 'IX' having price 1800.</p> <p>iii. Remove the column 'Section'.</p>		Cname	Fee	0	XII	3500	1	XI	3000	2	X	2700	3	VII	1800	3																																									
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28.	<p>Write SQL commands for the statements (i) to (iii) which are based on the given table PERSON.</p> <table border="1" style="margin-left: auto; margin-right: auto;"> <thead> <tr> <th>PID</th> <th>SNAME</th> <th>FNAME</th> <th>GEN</th> <th>CITY</th> <th>PINCODE</th> <th>SALARY</th> </tr> </thead> <tbody> <tr> <td>1</td> <td>SHARMA</td> <td>GEET</td> <td>F</td> <td>UDHAMWARA</td> <td>182141</td> <td>50000</td> </tr> <tr> <td>2</td> <td>SINGH</td> <td>SURINDER</td> <td>M</td> <td>KUPWARA</td> <td>193222</td> <td>75000</td> </tr> <tr> <td>3</td> <td>JCOB</td> <td>PETER</td> <td>M</td> <td>BHAWANI</td> <td>185155</td> <td>45000</td> </tr> <tr> <td>4</td> <td>ALVIS</td> <td>THOMAS</td> <td>M</td> <td>AHMED NAGAR</td> <td>380025</td> <td>50000</td> </tr> <tr> <td>5</td> <td>MOHAN</td> <td>GAURAV</td> <td>M</td> <td>COOLANGATA</td> <td>390026</td> <td>33000</td> </tr> <tr> <td>6</td> <td>AZMI</td> <td>SIMI</td> <td>F</td> <td>NEW DELHI</td> <td>110021</td> <td>40000</td> </tr> <tr> <td>7</td> <td>KAUR</td> <td>MANPREET</td> <td>F</td> <td>UDHAMWARA</td> <td>182141</td> <td>42000</td> </tr> </tbody> </table> <p>i) SELECT SUM(SALARY) FROM PERSON WHERE GEN='F'; ii) SELECT GEN,COUNT(*) FROM PERSON GROUP BY GENDER; iii) SELECT MOD(SALARY,4000) FROM PERSON WHERE CITY='UDHAMWARA';</p>	PID	SNAME	FNAME	GEN	CITY	PINCODE	SALARY	1	SHARMA	GEET	F	UDHAMWARA	182141	50000	2	SINGH	SURINDER	M	KUPWARA	193222	75000	3	JCOB	PETER	M	BHAWANI	185155	45000	4	ALVIS	THOMAS	M	AHMED NAGAR	380025	50000	5	MOHAN	GAURAV	M	COOLANGATA	390026	33000	6	AZMI	SIMI	F	NEW DELHI	110021	40000	7	KAUR	MANPREET	F	UDHAMWARA	182141	42000	3
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29	<p>Samridh has recently changed his school so he is not aware of the people, but someone is posting negative demeaning comments on his social media profile. He is also getting repeated mails from unknown people. Every time he goes online, he finds someone chasing him online.</p> <p>i. Samridh is a victim of _____.</p> <p>ii. The action that Samridh should take to handle it.</p> <p>iii. is a set of moral principles that governs the behavior of a group or individual and regulates the use of computers.</p> <p style="text-align: center;">OR</p> <p>What do you understand by plagiarism? Why is it a punishable offence? Mention any two ways to avoid plagiarism.</p>	3																														
30	<p>Consider a table “Salesman” with the following data:</p> <p>Table : Salesman</p> <table border="1" data-bbox="318 766 1166 1016"> <thead> <tr> <th>Sno</th> <th>Sname</th> <th>Salary</th> <th>Bonus</th> <th>DOJ</th> </tr> </thead> <tbody> <tr> <td>A01</td> <td>Beena Mehta</td> <td>30000</td> <td>45.23</td> <td>29-10-2019</td> </tr> <tr> <td>A02</td> <td>K.L. Sahay</td> <td>50000</td> <td>25.34</td> <td>13-03-2018</td> </tr> <tr> <td>B03</td> <td>Nisha Thakkar</td> <td>30000</td> <td>35.00</td> <td>18-03-2017</td> </tr> <tr> <td>B04</td> <td>Leela Yadav</td> <td>80000</td> <td>NULL</td> <td>31-12-2018</td> </tr> <tr> <td>C05</td> <td>Gautam Gola</td> <td>20000</td> <td>NULL</td> <td>23-01-1989</td> </tr> </tbody> </table> <p>Write SQL queries using SQL functions to perform the following operations.</p> <p>(i) Display salesman name and bonus after rounding off to zero decimal places.</p> <p>(ii) Display the month name for the date of join of salesman.</p> <p>(iii) Display the minimum salary of the Salesman .</p> <p style="text-align: center;">OR</p> <p>What is the purpose of GROUP BY clause in MySQL? How is it different from ORDER BY clause?</p>	Sno	Sname	Salary	Bonus	DOJ	A01	Beena Mehta	30000	45.23	29-10-2019	A02	K.L. Sahay	50000	25.34	13-03-2018	B03	Nisha Thakkar	30000	35.00	18-03-2017	B04	Leela Yadav	80000	NULL	31-12-2018	C05	Gautam Gola	20000	NULL	23-01-1989	3
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SECTION D																																
31.	<p>Write suitable SQL query for the following:</p> <p>i. Display 7 characters extracted from 7th left character onwards from the string ‘INDIA SHINING’.</p> <p>ii. Display the position of occurrence of string ‘COME’ in the string ‘WELCOME WORLD’.</p> <p>iii. Round off the value 78.779 to 2nd decimal place.</p> <p>iv. Display the remainder of 149 divided by 6.</p> <p>v. Remove all the expected leading and trailing spaces from a column userid of the table ‘USERS’.</p> <p style="text-align: center;">OR</p> <p>Explain the following SQL functions using suitable examples.</p> <p>i. LENGTH()</p> <p>ii. TRIM()</p> <p>iii. NOW()</p> <p>iv. DAYNAME()</p> <p>v. POWER()</p>	5																														

32. Trine Tech Corporation (TTC) is a professional consultancy company. The company is planning to set up their new offices in India with its hub at Hyderabad. As a network adviser, you have to understand their requirement and suggest them the best available solutions. Their queries are mentioned as (i) to (v) below.

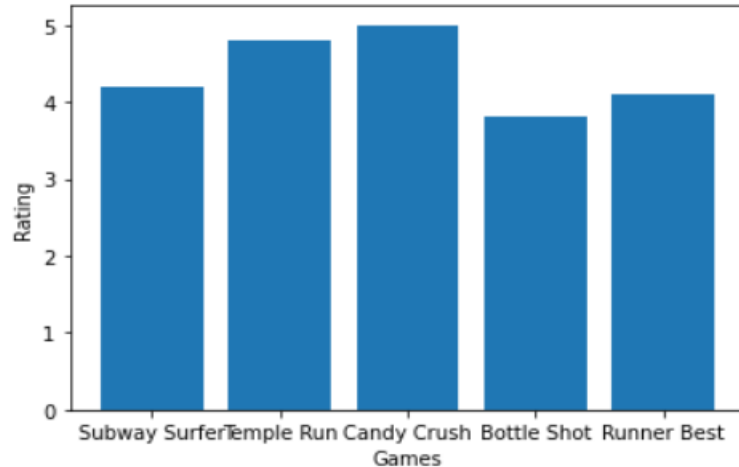
Physical location of the blocks of TTC



Blocks to block distance(in meter)		
Block(From)	Block(To)	Distance
Human Resource	Conference	110
Human Resource	Finance	40
Conference	Finance	80
Expected number of computers to be in each block		
Block	Computers	
Human Resource	25	
Finance	120	
Conference	90	

- (i) Which will be the most appropriate block, where TTC should plan to install their server?
- (ii) Draw a block to block cable layout to connect all the buildings in the most appropriate manner for efficient communication.
- (iii) Which of the following device will be suggested by you to connect each computer in each of the buildings?
 - (a) Switch
 - (b) Modem
 - (c) Gateway
- (iv) The company is planning to connect its admission office in Hyderabad which is more than 1000 km from company. Which type of network will be formed?
- (v) what will be the best possible connectivity out of the following you will suggest to connect the new setup of offices in Bangalore with its London based office.
 - a) Satellite Link
 - b) Infrared
 - c) Ethernet

33 Mr. Sharma is working in a game development industry and he was comparing the given chart on the basis of the rating of the various games available on the play store.



Write the python code for the above graph and Also give suitable python statement to save this chart.

OR

Write a python program to plot a line chart based on the given data to depict the pass percentage of students in CBSE exams for the years 2015 to 2018 as shown below.

Year=[2015,2016,2017,2018]

Pass_Percentage=[82,83,85,90]

SECTION E

34 Naveen, a database administrator has designed a database for a Computer Stock. Help her by writing answers of the following questions based on the given table:

1+1+2

TABLE: Stock

Pid	Pname	Category	Qty	Price
1	Keyboard	IQ	15	450
2	Mouse	IQ	10	350
3	Wi-fi router	NW	5	2600
4	Switch	NW	3	3000
5	Printer	O	4	17000

- Write a query to display product name in upper case.
- To display the records in descending order of the price.
- To display category and category wise highest price of product.

OR (Option for part iii only)

To display category and category wise total quantities of product.

35. 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 2010 to 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 given below:

1+1+2

	Year	Month	Passengers
0	2010	Jan	25
1	2010	Mar	50
2	2012	Jan	35
3	2010	Dec	55
4	2012	Dec	65

A. Predict the output of the following python statement:

i. `df.tail(3)`

ii. `df[df.Passengers>50]`

iii. Write Python statement to display the data of year column of indexes 1 to 3.

OR (Option for part iii only)

Write the Python code to rename the name of the column name is 'mon_name' in place of "Month" in the above Dataframe.