SAMPLE QUESTION PAPER 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 Q35 against part c only.
- 8. All programming questions are to be answered using Python Language only.

	PART A	
1.	Television cable network is an example of:	1
	i. LAN	
	ii. WAN	
	iii. MAN	
	iv. Internet	
2.	Which of the following is not a type of cyber crime?	1
	i. Data theft	
	ii. Installing antivirus for protection	
	iii. Forgery	
	iv. Cyber bullying	
3.	What is an example of e-waste?	1
	i. A ripened mango	
	ii. Unused old shoes	
	iii. Unused old computers	
	iv. Empty cola cans	
4.	Which type of values will not be considered by SQL while executing the following statement?	1
	SELECT COUNT(column name) FROM inventory;	
	i. Numeric value	
	ii. text value	
	iii. Null value	
	iv. Date value	





5.	If column "Fees" contains the data set (5000,8000,7500,5000,8000), what will be the output after the execution of the given query?	1
	SELECT SUM (DISTINCT Fees) FROM student;	
	i. 20500 ii. 10000	
	iii. 20000	
6.	iv. 33500 'O' in FOSS stands for:	1
0.	i. Outsource	1
	ii. Open	
	iii. Original	
	iv. Outstanding	
7.	Which SQL statement do we use to find out the total number of records present	1
	in the table ORDERS?	
	i. SELECT * FROM ORDERS;	
	ii. SELECT COUNT (*) FROM ORDERS;	
	iii. SELECT FIND (*) FROM ORDERS;	
	iv. SELECT SUM () FROM ORDERS;	
8.	Which one of the following is not an aggregate function?	1
	i. ROUND()	
	ii. SUM()	
	iii. COUNT()	
	iv. AVG()	
9.	Which one of the following functions is used to find the largest value from the	1
	given data in MySQL?	
	i. $MAX()$	
	ii. MAXIMUM()	
	iii. BIG()	
	iv. LARGE()	
10.	To display last five rows of a series object 'S', you may write:	1
	i. S.Head()	
	ii. S.Tail(5)	
	iii. S.Head(5)	
	iv. S.tail()	
11.	Which of the following statement will import pandas library?	1
	i. Import pandas as pd	
	ii. import Pandas as py	
	iii. import pandas as pd	
	iv. import panda as pd	

12.	Which of the following can be used to specify the data while creating a	1
	DataFrame?	
	i. Series	
	ii. List of Dictionaries	
	iii. Structured ndarray	
	iv. All of these	
13.	Which amongst the following is not an example of a browser?	1
	i. Chrome	
	ii. Firefox	
	iii. Avast	
	iv. Edge	
14.	In SQL, which function is used to display current date and time?	1
	i. Date ()	
	ii. Time ()	
	iii. Current ()	
	iv. Now ()	
15.	Legal term to describe the rights of a creator of original creative or artistic work	1
	is:	
	i. Copyright	
	ii. Copyleft	
	iii. GPL	
	iv. FOSS	
16.	is the trail of data we leave behind when we visit any website (or use	1
	any online application or portal) to fill-in data or perform any transaction.	
	i. Offline phishing	
	ii. Offline footprint	
	iii. Digital footprint	
	iv. Digital phishing	
017	and 18 are ASSERTION AND REASONING based questions. Mark the correct cl	noice 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): - Internet cookies are text files that contain small pieces of data,	1
	like a username, password and user's preferences while surfing the internet.	
	Reasoning (R):- To make browsing the Internet faster & easier, its required to	
	store certain information on the server's computer.	
18.	Assertion (A):- DataFrame has both a row and column index.	1
	Reasoning (R): - A DataFrame is a two-dimensional labelled data structure like a table of MySQL.	
	a table of MySQL.	





	PART B	
19.	Explain the terms Web page and Home Page.	2
	OR	
	Mention any four networking goals.	
20.	Rashmi, a database administrator needs to display house wise total number of	2
20.	records of 'Red' and 'Yellow' house. She is encountering an error while executing the following query:	Z
	SELECT HOUSE, COUNT (*) FROM STUDENT GROUP BY HOUSE WHERE HOUSE='RED' OR HOUSE= 'YELLOW';	
	Help her in identifying the reason of the error and write the correct query by suggesting the possible correction (s).	
21.	What is the purpose of Order By clause in SQL? Explain with the help of suitable example.	2
22.	Write a program to create a series object using a dictionary that stores the number of students in each house of class 12D of your school.	2
	Note: Assume four house names are Beas, Chenab, Ravi and Satluj having 18, 2, 20, 18 students respectively and pandas library has been imported as pd.	
23.	List any four benefits of e-waste management.	2
	Mention any four net etiquettes.	
24.	What will be the output of the following code:	2
	>>>import pandas as pd	
	>>>A=pd.Series(data=[35,45,55,40]) >>>print(A>45)	
25.	Carefully observe the following code:	2
	<pre>import pandas as pd Year1={'Q1':5000,'Q2':8000,'Q3':12000,'Q4': 18000} Year2={'A' :13000,'B':14000,'C':12000} totSales={1:Year1,2:Year2}</pre>	
	df=pd.DataFrame(totSales) print(df)	
	Answer the following:	
	i List the index of the DeteErome of	
	i. List the index of the DataFrame df	

			SECTIO	N C		
26.	Write outputs for SQL queries (i) to (iii) which are based on the given table PURCHASE:					
		T	ABLE: PURCHA	SE		
	CNO	CNAME	CITY	QUANTITY	DOP	
	C01	GURPREET	NEW DELHI	150	2022-06-11	
	C02	MALIKA	HYDERABAD	10	2022-02-19	
	C03	NADAR	DALHOUSIE	100	2021-12-04	
	C04	SAHIB	CHANDIGARH	50	2021-10-10	
	C05	MEHAK	CHANDIGARH	15	2021-10-20	
		ELECT LEN()UANTITY>1	GTH(CNAME) FF 00;	ROM PURCHAS	SE WHERE	
			ME FROM PURC	CHASE WHERE		
		IONTH(DOP)	· ·			
			(QUANTITY, DA = 'CHANDIGAR)		W PUKCHASE	
27.		•	create a DataFran	ne with appropria	ate column heading	gs 3
	from the	list given below	W:			
	[[101,'G	urman',98],[1()2,'Rajveer',95],[1	03,'Samar' ,96],	[104,'Yuvraj',88]]	
28.	Consider	the given Data	Frame 'Stock':			3
		Name		rice		
		Nancy Drew		50		
		Hardy boys		80		
		Diary of a win		25		
	3	Harry Potter	5	00		
	Write su	itable Python st	atements for the fo	llowing:		
		•	alled Special_Price	-	ng data:	
	E.	125 150 200 44	01			
	L	135,150,200,44	0].			
			oj. named 'The Secre	t' having price 80	0.	
	ii. A	dd a new book	-	t' having price 80	0.	
29.	ii. A iii. R Nadar ha	Add a new book Remove the colu as recently shift	named 'The Secret umn Special_Price. ted to a new city a	nd school. She d	loes not know man	•
29.	ii. A iii. R Nadar ha people in	add a new book and a new book as recently shift as recently shift n her new city	named 'The Secret umn Special_Price.	nd school. She d all of a sudden,	loes not know mar someone is postir	2
29.	ii. A iii. R Nadar ha people in negative. She is al	Add a new book Remove the colu as recently shift in her new city demeaning con so getting repe	named 'The Secret imn Special_Price. ted to a new city a and school. But a	nd school. She d all of a sudden, al networking pro- known people.	loes not know mar someone is postir ofile etc.	ng
29.	 ii. A iii. R Nadar ha people in negative, She is al online, si 	add a new book a recently shift n her new city , demeaning con so getting repe he finds someon	named 'The Secret umn Special_Price. ted to a new city a and school. But a mments on her soci ated mails from un	nd school. She d all of a sudden, al networking pro- known people.	loes not know mar someone is postir ofile etc.	ng
29.	ii. A iii. R Nadar ha people in negative. She is al online, sh	Add a new book Remove the colu as recently shift in her new city , demeaning con so getting repe he finds someon What is this hap	named 'The Secret imn Special_Price. ted to a new city a and school. But a mments on her soci ated mails from un he chasing her onlin	nd school. She d all of a sudden, al networking pro- known people.	loes not know man someone is postin ofile etc. Every time she goo	ng





o ways to avoid plagia on table STUDENT	arism.		pamonaole	offence? Mention		
ng:	given her	e, write su	iitable SQL	queries for the	3	
oll No Name	Class	Gender	City	Marks		
1 Abhishek	XI	М	Agra	430		
2 Prateek	XII	М	Mumbai	440		
3 Sneha	XI	F	Agra	470		
4 Nancy	XII	F	Mumbai	492		
5 Himnashu	XII	М	Delhi	360		
6 Anchal	XI	F	Dubai	256		
7 Mehar	X	F	Moscow	324		
8 Nishant	X	М	Moscow	429		
ay gender wise highes						
lay city wise lowest n						
play total number of n			ts.			
the significance of t	Ol Casur hu s		4a:1:4h .4h a	halm of avitable		
s the significance of (Group by c	lause in de	tan with the	e neip of suitable		
e.	SECT	ION D				
uitable SOL query for					5	
 Write suitable SQL query for the following: i. Display 7 characters extracted from 7th left character onwards from the 						
string 'INDIA SHINI			character o	invaras nom me		
Display the position WELCOME WORL	n of occurr	rence of sta	ring 'COM	E' in the string		
Round off the value 2		decimal pl	ace			
Display the remainde		-	uee.			
Remove all the expec of the table 'USERS'	ted leading	•	spaces from	n a column userid		
	(OR				
the following SQL f	unctions us	ing suitable	examples.			
UCASE()						
~						
~						
	TRIM() MID() DAYNAME() POWER()	TRIM() MID() DAYNAME()	TRIM() MID() DAYNAME() POWER()	TRIM() MID() DAYNAME() POWER()	TRIM() MID() DAYNAME()	

	and other given parameters.	
DEI HI HE	AD OFFICE MUMBA	I CAMPUS
	EXAMINAT	ION
	ADMIN	RESULT
Shortest	distances between various build	dings:
	TO ACCOUNTS	55 m
ADMIN	I TO EXAMINATION	90 m
	TO RESULT	50 m
	JNTS TO EXAMINATION	55 m
	JNTS TO RESULT	50 m
	NATION TO RESULT	45 m
campus	Head Office to MUMBAI	2150 m
campus		
Number	of computers installed at variou	us buildings are as follows:
ADMIN	1	110
ACCOL	JNTS	75
	INATION	40
RESUL		12
	HEAD OFFICE	20
(i)		iate location of the server inside the
		f the four buildings) to get the best umber of computers. Justify your answer.
	•	ut to efficiently connect various buildings
(ii)		
(ii)	within the MUMBAL campu	
	within the MUMBAI campu Which networking device	-
(ii) (iii)	Which networking device	will you suggest to be procured by the
	Which networking device company to interconnect al	-
(iii)	Which networking device y company to interconnect al MUMBAI campus?	will you suggest to be procured by the Il the computers of various buildings of
	Which networking device vcompany to interconnect alMUMBAI campus?Company is planning to ge	will you suggest to be procured by the ll the computers of various buildings of et its website designed which will allow
(iii)	Which networking device y company to interconnect al MUMBAI campus?Company is planning to ge students to see their results a	will you suggest to be procured by the ll the computers of various buildings of et its website designed which will allow after registering themselves on its server.
(iii) (iv)	Which networking device v company to interconnect al MUMBAI campus?Company is planning to ge students to see their results a Out of the static or dynamic,	will you suggest to be procured by the ll the computers of various buildings of et its website designed which will allow after registering themselves on its server, which type of website will you suggest?
(iii)	 Which networking device y company to interconnect al MUMBAI campus? Company is planning to ge students to see their results a Out of the static or dynamic, Which of the following will 	will you suggest to be procured by the ll the computers of various buildings of et its website designed which will allow after registering themselves on its server , which type of website will you suggest? I you suggest to establish the online face
(iii) (iv)	 Which networking device v company to interconnect al MUMBAI campus? Company is planning to ge students to see their results a Out of the static or dynamic, Which of the following will to face communication betw 	will you suggest to be procured by the ll the computers of various buildings of et its website designed which will allow after registering themselves on its server, which type of website will you suggest? I you suggest to establish the online face ween the people in the ADMIN office of
(iii) (iv)	 Which networking device y company to interconnect al MUMBAI campus? Company is planning to ge students to see their results a Out of the static or dynamic, Which of the following will 	will you suggest to be procured by the ll the computers of various buildings of et its website designed which will allow after registering themselves on its server, which type of website will you suggest? I you suggest to establish the online face ween the people in the ADMIN office of
(iii) (iv)	 Which networking device y company to interconnect al MUMBAI campus? Company is planning to ge students to see their results a Out of the static or dynamic, Which of the following will to face communication betw Mumbai campus and Delhi I 	will you suggest to be procured by the ll the computers of various buildings of et its website designed which will allow after registering themselves on its server, which type of website will you suggest? I you suggest to establish the online face ween the people in the ADMIN office of
(iii) (iv)	 Which networking device v company to interconnect al MUMBAI campus? Company is planning to ge students to see their results a Out of the static or dynamic, Which of the following will to face communication betw Mumbai campus and Delhi I a) Cable TV 	will you suggest to be procured by the ll the computers of various buildings of et its website designed which will allow after registering themselves on its server, which type of website will you suggest? I you suggest to establish the online face ween the people in the ADMIN office of head office?





			OR (Option	for part iii oi	nly)		
		Write a query t	o count year wise to	otal number o	of cloths purchased.		
35.							
	-	• •		3', 'CO4', 'C	O5' as indexes shown		
	below. An	swer the followi	ng questions:				
		School	Tot_students	Topper	First_Runnerup		
	CO1	PPS	40	32	8	1+1+2	
	CO2	JPS	30	18	12		
	CO3	GPS	20	18	2		
	CO4	MPS	18	10	8		
	CO5	BPS	28	20	8		
	i. ii. B. Wr	df.shape df[2:4]	of the following pyt ment to display the OR (Option	data of Topp	er column of indexes		
	Wr	ite Python state	· •	-	e difference of data of		
		t_students colur taFrame.	nn and First_Rum	nerup columr	n of the above given		





MARKING SCHEME

CLASS XII

INFORMATICS PRACTICES (065)

TIME: 3 HOURS

M.M.70

1.	iii. MAN	1
	1 mark for correct answer	
2.	ii. Installing antivirus for protection	1
	1 mark for correct answer	
3.	iii. Unused old computers	1
	1 mark for correct answer	
4.	iii. Null value	1
	1 mark for correct answer	
5.	i. 20500	1
	1 mark for correct answer	
6.	ii. Open	1
	1 mark for correct answer	
7.	ii. SELECT COUNT (*) FROM ORDERS;	1
	1 mark for correct answer	
8.	i. ROUND()	1
	1 mark for correct answer	
9.	i. MAX ()	1
	1 mark for correct answer	
10.	iv. S.tail()	1
	1 mark for correct answer	
11.	iii. import pandas as pd	1
	1 mark for correct answer	
12.	iv. All of these	1



	1 mark for correct answer	
13.	iii. Avast	1
	1 mark for correct answer	
14.	iv. Now()	1
	1 mark for correct answer	
15.	i. Copyright	1
	1 mark for correct answer	
16.	iii. Digital footprint	1
	1 mark for correct answer	
17.	iii. A is True but R is False	1
18.	i. Both A and R are true and R is the correct explanation for A	1
19.	Web Page: A Web Page is a part of a website and is commonly written in HTML. It can be accessed through a web browser.	2
	Home Page: It is the first web page you see when you visit a website.	
	1 mark for correct explanation of each term	
	Or	
	Four networking goals are:i.Resource sharingii.Reliabilityiii.Cost effectiveiv.Fast data sharing	
	½ mark for each goal	
20.	The problem with the given SQL query is that WHERE clause should not be used with Group By clause.	2
	To correct the error, HAVING clause should be used instead of WHERE.	
	Corrected Query:	
	SELECT HOUSE, COUNT(*) FROM STUDENT GROUP BY HOUSE HAVING HOUSE= 'RED' OR HOUSE='YELLOW';	
	1 Mark for error identification 1 Mark for writing correct query	





21.	Order By clause:	2
	The ORDER BY command is used to sort the result set in ascending or descending order.	
	The following SQL statement displays all the customer's names in alphabetical order:	
	SELECT Cname FROM Customers ORDER BY Cname;	
	1 mark for correct purpose 1 mark for correct example	
22.	St={'Beas' :18, 'Chenab' :20, ' Ravi' :20, ' Satluj' :18}	2
	S1=pd.Series(St)	
	1 mark for each correct python statement	
23.	The e-waste management-	2
	i. Saves the environment and natural resources	
	ii. Allows for recovery of precious metals	
	iii. Protects public health and water quality iv. Saves landfill space	
	·	
	1/2 mark for each benefit	
	Or	
	i. No copyright violation	
	ii. Share the expertise with others on the internet	
	iii. Avoid cyber bullying	
	iv. Respect other's privacy and diversity	
	½ mark for each net etiquette	
24.	0 False	2
	1 False	
	2 True	
	3 False	
	1/2 mark for each correct output	
25.	i. The index labels of df will include Q1,Q2,Q3,Q4,A,B,C	2
	ii. The column names of df will be: 1,2	
	1 mark for each correct answer	
26.	i. 8	3
	ii. No Output	
	iii. 0 15	
i	17	

	1 mark for each correct output	
27.	<pre>import pandas as pd data=[[101,'Gurman',98],[102,'Rajveer',95],[103,'Samar' ,96], [104,'Yuvraj',88]] df=pd.DataFrame(data,columns=['Rno','Name', 'Marks']) 1 mark for each correct python statement</pre>	3
28.	 i. Stock['Special_Price']=[135,150,200,400] ii. Stock.loc['4']=['The Secret',800] iii. Stock=Stock.drop('Special_Price',axis=1) 1 mark for each correct statement 	3
29.	 i. Nadar has become a victim of cyber bullying and cyber stalking. ii. She must immediately bring it into the notice of her parents and school authorities. And she must report this cyber crime to local police with the help of her parents. iii. Yes. The Information Technology Act, 2000 (also known as ITA-2000, or the IT Act) is the primary law in India dealing with cybercrime and electronic commerce. 	3
	1 mark for each correct answer	
	OR	
	Ans. Plagiarism is the act of using or stealing someone else's intellectual work, ideas etc. and passing it as your own work. In other words, plagiarism is a failure in giving credit to its source.	
	Plagiarism is a fraud and violation of Intellectual Property Rights. Since IPR holds a legal entity status, violating its owners right is a legally punishable offence.	
	Any two ways to avoid plagiarism:	
	Be originalCite/acknowledge the source	
	1 mark for correct definition 1 mark for correct justification ½ mark each for any two ways to avoid plagiarism	



	 i. select max(marks) from student group by gender; ii. select min(marks) from student group by city; iii. select gender,count(gender) from student group by gender; 							
:	1 mark for each correct query							
	OR							
	GROUP BY clause is used in a SELECT statement in combination with aggregate							
1	functions to group the result based on distinct values in a column.							
1	For example: To display total number of male and female students from the table							
,								
	STUDENT, v	ve need to first	group reco	rds based on	the gender th	nen we should		
	count recor	ds with the help	p of count() function.				
	Considering	g the following	table STUD	DENT:				
]	RollNo	Name	Class	Gender	City	Marks		
	1	Abhishek	XI	М	Agra	430		
	2	Prateek	XII	М	Mumbai	440		
	3	Sneha	XI	F	Agra	470		
	4	Nancy	XII	F	Mumbai	492		
[5	Himnashu	XII	М	Delhi	360		
	6	Anchal	XI	F	Dubai	256		
	7	Mehar	X	F	Moscow	324		
	8	Nishant	X	М	Moscow	429		
	SQL query for the above-mentioned task is as follows: select gender,count(gender) from student group by gender; Output: Gender Count(Gender) M 4							
	Output: Gender M	Count(Gende		dent group b	y gender;			
	Output: Gender M	Count(Gende 4 4	r)	dent group b	y gender;			
	Dutput: Gender M F	Count(Gende 4 4 correct significa	r) ance	dent group b	y gender;			
	Dutput: Gender M F	Count(Gende 4 4 correct significa	r) ance le		y gender;			
	Output: Gender M F 1 mark for 0 2 marks for	Count(Gende 4 4 correct significa	r) ance le DIA SHINING	G',7,7);				
	Output: Gender M I mark for 2 marks for i.	Count(Gende 4 4 correct significa correct examp select mid('INE	r) ance le DIA SHINING VELCOME \	G',7,7);				
	Output: Gender M I mark for 2 marks for i. ii.	Count(Gende 4 4 correct significa correct examp select mid('INE select INSTR('V	r) ance le DIA SHINING VELCOME V 3.78,1);	G',7,7);				
	Output: Gender M F 1 mark for (2 marks for i. ii. ii.	Count(Gende 4 4 correct significa correct examp select mid('INE select INSTR('V select round(2	r) ance le DIA SHINING VELCOME \ 3.78,1); 0,9);	G',7,7); WORLD','COM				

	OP					
	OR 1. UCASE(): It converts the string into upper case.					
	Example: SELECT UCASE('welcome world');					
	Output:					
	WELCOME WORLD					
	2. TRIM(): It removes the leading and trailing spaces from the given string. Example:					
	SELECT TRIM(' Welcome world ');					
	Output:					
	Welcome world					
	3. MID(): It extracts the specified number of characters from given string.					
	Example:					
	SELECT MID(' Welcome world,4,,4);					
	Output:					
	Come					
	4. DAYNAME(): It returns the weekday name for a given date					
	Example:					
	SELECT DAYNAME('2022-07-22');					
	Output:					
	Friday					
	5. POWER(): It returns the value of a number raised to the power of another					
	number.					
	Example:					
	SELECT POW(6,2);					
	Output:					
	36					
	¹ / ₂ mark for each correct explanation ¹ / ₂ mark for each correct example					
32.						
52.	i. Server should be installed in Admin department as it has 5 maximum number of computers.					
	maximum number of computers.					
	ii.					
	examination					
	Admin accounts					
	Result					
	Star topology					
L	1I					





	iii. Hub/Switch					
	iv. Dynamic					
	v. Video conferencing					
	1 Mark for each correct answer					
33.	import matplotlib.pyplot as plt					
	Category=['Gold','Silver','Bronze']					
	Medal=[20,15,18]					
	plt.bar(Category,Medal) plt.ylabel('Medal')					
	plt.xlabel('Medal Type')					
	plt.title('Indian Medal tally in Olympics')					
	plt.show()					
	¹ / ₂ mark for each correct statement					
	Python statement to save the chart:					
	plt.savefig("aa.jpg")					
	1 mark for the correct statement					
	OR					
	import matplotlib.pyplot as plt					
	Week=[1,2,3,4]					
	Avg_week_temp=[40,42,38,44]					
	plt.plot(Week,Avg_week_temp) plt.show()					
	1 mark for each correct statement					
34.	i. SELECT LOWER(CNAME) FROM CLOTH;	1+1+2				
	ii. SELECT MIN(PRICE) FROM CLOTH;	-				
	1 mark for each correct query					
	iii. SELECT COUNT(*) FROM CLOTH GROUP BY SIZE HAVING					
	SIZE='M';					
	SELECT YEAR(DOP),COUNT(*) FROM CLOTH GROUP BY YEAR(DOP);					
	2 marks for correct query					
35.	A. Output:	1+1+2				
	i. (5,4)					





ii.	School	tot_students	Topper	First_Runner_up		
CO3	GPS	20	18	2		
CO4	MPS	18	10	8		
1 mark for each correct output						
B. Python statement:						
print(df.loc['CO2': 'CO4', 'Topper']) OR						
print(df.Tot_students-df.First_Runnerup)						
2 marks for correct Python statement						



