**KENDRIYA VIDYALAYA SANGATHAN JAIPUR REGION** 

20-21 / IP / B

## **PRE BOARD EXAMINATION 2020-21**

## Class: XIITime: 3 HrsSubject: (065) INFORMATICS PRAC.Maximum Marks : 70

General Instructions:

- 1. This question paper contains two parts A and B. Each part is compulsory.
- 2. Both Part A and Part B have choices.
- 3. Part-A has 2 sections:

a. Section – I is short answer questions, to be answered in one word or one line.

b. Section – II has two case studies questions. Each case study has 5 case-based subparts. An examinee is to attempt any 4 out of the 5 subparts.

- 4. Part B is Descriptive Paper.
- 5. Part- B has three sections
  - a. Section-I : is short answer questions of 2 marks each in which two questions have internal options.
  - b. Section-II : is long answer questions of 3 marks each in which two questions have internal options.
  - c. Section-III : is very long answer questions of 5 marks each in which one question has internal option.

	PART – A Section I : Attempt any 15 questions from questions 1 to 21	
Q1.	State whether True or False:	1
	(ii) Firewall can be implemented in software as well as in hardware.	
Q2.	Fill in the blanks:	1
	Which command is used to show a chart:	
	(i) chartshow() (ii) show()	
	(iii) display()	
	(iv) showchart()	
Q3.	Write the output of the following SQL command:	1
_	select round(458.45, - 1)	
	(i) 450	
	(ii) 400	
	(iii) 460	
	(iv) 500	
Q4.	Given a Pandas series called Sequences, the command which will display the last 7	1
	rows is	
	(i) print(Sequences.tail(7))	
	(ii) print(Sequences.Tail(7))	
	(iii) print(Sequences.last(7))	
	(iv) print(Sequences.Last(7))	

Q5.	Given the following series objects:	1
	S1 $S2$ 0       10         1       15         2       20         3       3         4       25         5       30         6       5	
Q6.	Statement import pyplot.matplotlib is a valid statement for working on pyplot functions. (True / False)	1
Q7.	Full form of bcc in the context of email is	1
Q8.	The axis 1 identifies a dataframe's (i) rows (ii) columns (iii) values (iv) datatype	1
Q9.	Which of the following is not a network topology :Star,Mesh ,Tree,Bug ,Bus	1
Q10.	<ul> <li>For web pages where the information is changed frequently, for example, stock prices, weather information which out of the following options would you advise?</li> <li>a) Static web page</li> <li>b) Dynamic web page</li> <li>Justify your answer.</li> </ul>	1
Q11.	The substr() function in MySql is an example of(i) Math function(ii) Text function(iii) Date Function(iv) Aggregate Function	1
Q12.	refers to any information about you or created by you that exists in digital form, either online or on an electric storage device.	1
Q13.	In Pandas, function will return the total number of rows in a dataframe.	1
Q14.	I can keep you signed in. I can remember your site preferences. I can give you locally relevant content. Who am I ?	1

Q15.		Which amongst the following is not an example of Antivirus ? i) Avast ii) Quick Heal iii) Edge iv) McAfee					
Q16.		A mail or message sent to a large number of people indiscriminately without their consent is called	1				
Q17.		According to a survey, one of the major asian country generates approximately about 2 million tonnes of electronic waste per year. Only 1.5 % of the total e-waste gets recycled. Suggest a method to manage e-waste.	1				
Q18.		The command is used to sort a column's data in SQL in ascending order.	1				
Q19.		Write the SQL command that removes leading and trailing spaces from a given string.	1				
Q20.		The topology has a central controller.	1				
Q21.		What is the name of the IT law that India is having in the Indian legislature?1i) India's Technology (IT) Act, 20001ii) India's Digital Information Technology (DIT) Act, 20001iii) India's Information Technology (IT) Act, 20001iv) The Technology Act, 20081					
	Att	Section II : Both the case study based questions (22 & 23 ) are compulsory. empt any four sub parts from each question. Each sub question carries 1 mark.					
Q22.		Consider the following dataframe df as shown below: namenameengipgeototalT1kushagra529885235T2naresh488588221T3prakhar699478241T4trapti708191242					
	(i)	Write the code to create above dataframe in Python (Pandas code).	1				
	(ii)	What will be the output produced by following statements?         >>> print(df.at['T3','total'], df.at['T1','ip'])         (i)       235       94         (ii)       241       98         (iii)       241       94         (iv)       235       98	1				

	(iii)	What will be the output produced by following statements?					
			8 1)	(;;)			
		10 $10$ $10$ $10$ $10$ $10$ $10$ $10$		(II) T2	1p 85		
		<u>T3 94 78</u>			· .		
		111) 1p geo T2 85 88		(IV) T2	ір 85		
				T3	94		
	(iv)	What will be the output produce >>> print(df.iat[2,1], df.iat[1,2])	ed by follow	ing statem	ents?	1	
		(i) prakhar 69					
		(ii) T2 naresh					
		(ir) Rushagra 52 $(iv)$ 69 85					
	()	Milest	- d lass 6 - 11	·		1	
	(v)	<pre>&gt;&gt; print(df.iloc[ :: 2, 0 :: 4 ])</pre>		ing statem	ents?		
		(i) name total		(ii)	name total		
		T1 kushagra 235		T2	naresh 221		
		(iii) name total		(iii)	name tota	l	
		T1 kushagra 235		T3	prakhar 241		
		13 prakhar 241		14	trapti 242		
Q23.		Consider the table "ITEM" crea	ated in MyS	QL and giv	ven below:		
		ino Name	Rate	Qty	Model	7	
		9 EARPHONE	750	5	JBL		
		10 EARPHONE	399	4	Mi	]	
		11 HEADPHONE	700	5	JBL		
		12 EARPHONE	1499	7	samsung		
		13 COLLER MIC	288	5	Mi		
		14 MOBILE STAND	499	5	lenovo		
		15 earphone	399	5	BoAT		
		16 earphone	699	50	samsung		
		neadphone	1099	8	BOAT	<b>」</b> │	

(i)	State	e the comman	d that will g	give the o	utput	as :	1
	Nam	ie.	Model				
	EAR	PHONE	Mi				
	COL	LER MIC	Mi				
	a	) select n	ame, model	from iter	n whe	ere model='Mi';	
	b	) select n	ame, model ame, model	from iter	n whe	ere model like 'Mi';	
	d	) select n	ame, model ame, model	from iter	n whe	ere Qty=4 or Qty=5	
	_	_					
	Choo	$rac{1}{2}$ by the correction $rac{1}{2}$	t option:				
	(i	ii) Any of th	ne option (a	), (b), and	d (c)		
	(i	iii) Both (c)	and (d)	<i>,</i> , , , , , , , , , , , , , , , , , ,	ĊĴ		
	(i	iv) Both (a)	and (b)				
(ii)	Wha	t will be the o	utput of the	e followin	g com	umand:	1
()	seled	ct * from item	where qty=	5 order b	y mo	del desc;	
	(I)						
	(l) 12	FADDUONE		1/00	7	comcung	
	12	earnhone		699	, 50	samsung	
	10	EARPHONE		399	4	Mi	
	13	COLLER MIC		288	5	Mi	
	14	MOBILE STAI	ND	499	5	lenovo	
	9	EARPHONE		750	5	JBL	
	11	HEADPHONE		700	5	JBL	
	15	earphone		399	5	BoAT	
	17	headphone		1099	8	BoAt	
	(;;)						
	(II) 15	earnhone		399	5	ВоАТ	
	9	EARPHONE		750	5	IBL	
	11	HEADPHONE		700	5	JBL	
	14	MOBILE STA	ND	499	5	lenovo	
	13	COLLER MIC		288	5	Mi	
	(iii)			1000	0		
	17	neadphone		1099	8	BOAT	
	10 12	EARPHUNE		377 1400	4 7	MII comcung	
	12 16	earphone		1499	7 50	samsung	
	10	carphone		077	50	Samsung	

		Selec	t max(rate) from iten	n where gro losirod rosul	up by n It Holp	lame;		
		but s	he is not getting the d	lesired resul	t. Help	her by writing the correct command.		
		(i) se	lect name, max(rate)	from item w	vhere g	roup by name;		
		(iii) s	select max(rate) from	item group	by mod	del;		
		(iv) s	elect name, max(rate	) from item	order l	by name;		
	(iv)	State	the command to displa	ay the model	and th	e total quantity of every model whose	1	
		total a) s	quantity is greater tha elect name, sum(qty) f	n 10 is : 'rom item gro	oup by i	model having sum(qty)>10		
		b) se	elect model, sum(qty) f	from item gro	oup by	name having sum(qty)>10		
		d) se	elect model, sum(qty) f	from item gro	oup by iere qty	7>10 group by model		
		Choo	se the correct option:					
		(i	) Both (b) and (c)					
		(ii) Any of the option (a), (b), and (d) (iii) Only (c)						
		(i	v) Both (a) and (d)					
	(v)	Help	Alankar to write the co	ommand to d	isplay t	the name of the headphone of JBL	1	
		comp (i	any: )         select * from iten	n where nam	ie = '%r	phone' and model='IBL':		
		(i	i) select * from iten	n where nam	e = heat	adphone' and model='JBL';		
		(1 (1	<ul><li>select * from iten</li><li>select * from iten</li></ul>	h where nam h where nam	e like 'l	headphone'; %phone' and model='JBL';		
			-	DADT D.	Costion	- I		
Q24.		Cons	ider a given Series , S	1:	Section		2	
			,.					
				( UP	Avg_ 500	<u>Salary</u>		
			Index	{ MP	600	0		
				Gujarat Delhi	800	0		
				2 0	000	<u> </u>		
		Write	e a program in Pythor	n Pandas to o	create t	the series.		

Q25.	State any two differences between single row functions and multiple row functions.							
	<b>OR</b> What is the difference between the order by and group by clause? Explain with an example.							
Q26.	Consider the decimal number x with value 7459.3654. Write commands in SQL to: i) round it off to a whole number ii)round it to 2 places before the decimal.	2						
Q27.	Consider the following Series object, S	2						
	CPU5000 MonitorMonitor4000 SpeakerSpeaker800 UPSUPS2000							
Q28.	Shailly writes the following commands with respect to a table Employee having fields, empno, name, department, commission.       2         Command1 : SELECT COUNT(*) FROM EMPLOYEE;       2         Command2 : SELECT COUNT((*) FROM EMPLOYEE;       2         She gets the output as 7 for the first command but gets an output 5 for the second command. Explain the output with justification.       2							
Q29.	Consider the following SQL string: "SELFMOTIVATION". Write commands to       2         display:       a. "MOTIVATION"         b. "MOT"       0         OR       Considering the same string "SELFMOTIVATION". Write SQL commands to         display:       a. the position of the substring 'MOTIV' in the string "SELFMOTIVATION"         b. the last 6 letters of the string							
Q30.	Consider the following DataFrame, classframe	2						
	RollnoNameClassSectionCGPAStreamSt11NareshIXA8.7ScienceSt22LakshayXIIB8.9ArtsSt33TraptiXC9.2ScienceSt44PrakharXIB9.4Commerce							

	Write commands to :	
	i. Add a new column 'Activity' to the Dataframe	
	ii. Add a new row with values ( 5 , Shailly, XII, D , 9.8, Arts)	
031	Expand the following terms related to Computer Networks:	2
Q31.	a SMTP b POP c FTP d VoIP	2
Q32.	List any two health hazards related to excessive use of Technology.	2
Q33.	Layna is using her internet connection to book a flight ticket. This is a classic	2
	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?	
	PART – B · Section II	
034	Consider two objects y and y, y is a list whoreas y is a Series Both have values	2
Q34.	2 4 9 10	5
	What will be the output of the following two statements considering that the	
	above objects have been created already	
	a. print (x*2) b. print(y*2)	
	Justify your answer.	
Q35.	What do you mean by Plagiarism? Explain with the help of an example.	3
	OR	
	What do you understand by Net Ettiquetes? Explain any two such ettiquetes	
	what do you understand by Net Ettiquetes: Explain any two such ettiquetes.	
Q36.	Consider the following graph. Write the code to plot it.	3
	6	
	34	
	4	
	3	
	1	
	2 3 4 5 6 7	
1		

	OR	
	Draw the following har graph representing the number of students in each class	
	Draw the following bar graph representing the number of students in each class.	
Q37.	A relation SALESMAN is given below:	3
	SNOSNAMESALARYBONUSDATEOFJOINAREAA01Kushagra Jain3000045.2529-10-2019DelhiA02Prakhar Sharma5000025.5013-03-2018AjmerB03Trapti Singh3000035.0018-03-2017JhansiB04Shailly8000045.0031-12-2018DelhiC05Lakshay Lawania2000010.2523-01-1989JaipurC06Naresh7000012.7515-06-1987AjmerD07Krishna Singh5000027.5018-03-1999JhansiWrite SQL commands to perform the following operations:i) Count the number of salesman area-wise.ii) Display the month name for the date of join of salesman of area 'Ajmer'iii) Display the total salary paid to all salesman.	
	PART - R · Section III	
Q38.	Write a program in Python Pandas to create the following DataFrame batsman	5
	from a Dictionary:	0
	1 Sachin 90 80	
	2 Dhoni 65 45	
	3 Kapil 70 90	
	4 Rahul 80 76	
	<ul> <li>Perform the following operations on the DataFrame :</li> <li>1) Add both the scores of a batsman and assign to column "Total"</li> <li>2) Display the highest score in both Score1 and Score2 of the DataFrame.</li> <li>3) Display the DataFrame</li> </ul>	

Q39.	Write i) To ii) To iii) To iv) To v) To Write are b	e the SQL fu display the o remove sp o display the o print the o compute t OR e SQL for qu ased on the	inctions which will perfo name of the month of th paces from the beginning ne name of the day eg, Fri value of square root of 2 he remainder of division uestion from (i) to (iv) an e table: KV given below:	rm the following e current date. and end of a stri day or Sunday fi upto 2 decimal p between two nu	g operations: ing, " KV Sang rom your date o ooints. umbers, n1 and L queries (v) an	gathan ". of birth, dob. n2 d (vi), which	5
	(i) (ii) (iii) (iv)	KVCode 1603 1595 1596 1019 1020 1769 1702 1296 Print the Print the Print the Print the	KVName Bharatpur Alwar Alwar Itarana Gandhidham IFFCO Gandhidham Railway Avadi AFS Uri Barnala AFS details of KVs whose Sta details of KVs whose nar details of KVs of Jaipur re number of KVs Zone-wis	StationCode 331 324 324 11 11 584 390 172 tionCode betwee ne ends with AF egion	Region Jaipur Jaipur Jaipur Ahmedabad Ahmedabad Chennai Jammu Chandigarh en 300 and 500 S	Zone West West West West South North North	
Q40.	(iv) (v) (vi) Glob Mark Dista	Select Re Select * f al Infocom ket, Fun, Le	egion, count(KVName) from KV where substr(KV rom KV where substr(KV Ltd. is setting up the ne	om KV where Zo Name, 2, 3)='an twork in Jaipur s under:	ne='West' grou d' or StationCoo . There are fou	p by Region de=390; Ir department	s 5
		Marke Marke Legal Legal Fun de	et Dept to Fun Dept et Dept to legal Dept et Dept to Sales Dept Dept to Sales Dept Dept to Fun Dept. ept to Sales dept.		80 180 100 150 50	m 0 m 0 m 0 m 0 m m	

Number of computers :
Market Dept : 20
Legal Dept : 10
Fun Dept : 50
Sales Dept : 100
i) Suggest a most suitable cable layout for the above connections.
ii) Suggest the network type between the departments.
ii) Suggest the most suitable building to place the server with suitable reason.
iii)Suggest the placement of the following devices :
a) Repeater
b) Hub/Switch
iv) The organization is planning to link its Head Office situated in 'New Delhi'. Which type of network out of LAN, MAN, WAN will be formed? Justify your answer.

0-0-o- Best of Luck -o-0-0