Class XII
Informatics Practices - OLD (265)
Sample Question Paper 2019-20

Time allowed: 3 Hours **Max. Marks: 70**

General Instructions:
All questions are compulsory, however question number 2, 4 and 6 have internal choices.

	Section-A	
1.	**(a)** Which of the following are open standards? .OGG .DOC .BMP .ODF	**1**
	(b) Ms. Ivana, a leading marketing professional working in a multinational company, is most of the time on move to cater her profession demands. Although she carries her laptop with her all the time but many a times she require to take some data from her office PC. She has to make several requesting phone calls to her colleague Ms. Barbara to send her required documents from her office PC. Suggest her any one popular software name so that she can herself remotely access her office PC anytime from anywhere.  	**1**
	(c) Write the URL of any one e-Governance website.	**1**
	(d) International Tour and Travels company has set up its new branch office in Jaipur where different buildings are spanned over in the radius of 900 meter in Jaipur. Name the network formed in the following situations : (i) The branch office is connected with the regional office in New Delhi. (ii) All the buildings of branch office are connected to each other.	**1**
	(e) Deepti is confused between the terms ASCII and Unicode. Help her by differentiating between ASCII and Unicode.	**2**
	(f) Many of the programming brains has shifted their focus from Proprietary software to Free and Open software. Mention any two freedom offered by Free software. Going with the flow, Sandhya has downloaded a software from the internet which can be freely distributed and used by anyone but the source code is not available. Is it Freeware or free software? Justify your answer as well. Similarly Premjith wants to install a software on his system that can help him to create, edit and save office documents but he does not want to purchase the software. Suggest him a good software for the same.	**4**

2.	**(a)** Ruby, a class XI student has just started learning java programming. Help her in the following: i. Explain her the concept of variable and data type by suitable example. ii. Help her in understanding the difference between assignment operator and comparison operator with the help of appropriate example.	**4**

	(b) Will the output from the following two code be any different?
	First Code:
	`int x=2,y=40;`
	`while(y<=x) {`
	`jTextField1.setText(""+x);`
	`x=x+8;`
	`}`
	
	Second Code :
	`int x=2,y=40;`
	`do {`
	`jTextField1.setText(""+x);`
	`x=x+8;`
	`} while(y<=x);`
	
	Give reasons for your answer.
		2

	OR	

	(b) Predict the output of the following code:
	`int n=4,f=0,i;`
	`for(i=1;i<=n;i++)`
	`{`
	`f=f*i;`
	`}`
	`jTextField1.setText(""+f);`
	`jTextField2.setText(""+i);`	

	(c) Dev, a website designer with "Creative Designers Pvt. Ltd." has written the following code. Observe the code given below and answer the following questions:
	
	`<company>`
	`<employee eid=1>`
	`<name>Albert</name>`
	`<dept deptid="d1">Computer</dept>`
	`</employee>`
	`<employee eid=2>`
	`<name>Manisha</name>`
	`<dept deptid="d2">Accounts</dept>`
	`</employee>`
	`</company>`
	i. Are these tags part of HTML code or XML code?
	ii. Identify the root element.
	iii. Mention any two child elements.
	iv. Mention any two attributes
		4

	OR	

	(c) Mention any two main differences between HTML and XML. Also mention any two main features of XML for which it's used extensively now a days.	
3.	**(a)** What is the purpose of SQL?	**1**
	(b) Mr. Manav, a database administrator in "Global Educational and Training Institute" has created following table named "Training" for the upcoming training schedule: Training Training_Id | Name | Email_Id | Topic | City | Fee ND01 | Mr. Rajan | raj@gmail.com | Cyber Security | New Delhi | 10000 GU01 | Ms. Urvashi | urv@yahoo.com | ICT in Education | Gurugram | 15000 FD01 | Ms. Neena | neenarediff.com | Cyber Security | Faridabad | 12000 ND02 | Mr. Vinay | NULL | ICT in Education | New Delhi | 13000 GU02 | Mr. Naveen | nav@gmail.com | Cyber Security | Gurugram | NULL Help him in writing SQL query for the following purpose: i. To count how many female candidates will be attending the training. ii. To display list of free trainings. iii. To display all the cities where Cyber Security training is scheduled along with its fee. iv. To add a column feedback with suitable data type.	**4**
	(c) Observe the table named "Training" given above carefully and predict the output of the following queries: i. select city from training where topic = 'Cyber Security'; ii. select count(Training_Id) from training where email_id like '%gmail% '; iii. select AVG (Fee) from training where Topic = 'Cyber Security'; iv. select name from training where INSTR (Email_Id, '@')=0;	**4**
	(d) What is the degree and cardinality of the above given table named 'Training'.	**1**
4.	**(a)** Shiva has placed two radio button on a payment form designed in NetBeans to accept mode of payment one out of cash or card. To his surprise, during runtime, a customer is able to select both the options for a single transaction. What went wrong?	**1**
	OR	
	(a) Mention any one advantage of jCheckBox control over jRadioButton control.	
	(b) Prachi is working with following swing controls: **jButton, jLabel, jTextField, jCheckBox.** Suggest her any two basic methods commonly available with all the four controls mentioned above.	**1**
	OR	
	(b) How jLabel is different from jTextField control at run time?	

	(c) What will be an output of the following code if value of variable application is 1?
	Switch (application)
	{
	case 0 : jTextField1.setText("RDBMS");
	case 1 : jTextField1.setText("BROWSER");
	case 2 : jTextField1.setText("OS"); break;
	case 3 : jTextField1.setText("PHOTO EDITOR"); break;
	default : jTextField1.setText("Application Software"); break;
	}
		1

	OR	
	(c) Re-write the above given code through if-else statements.	

	(d) Anju, a beginner in java programming has written following code with some mistakes:
	int k=0;
	string s="Save Earth";
	int l=s.length;
	for(int i=0;k<l;i++)
	{
	jTextArea1.append(s+\n);
	k++;
	};
	Help her in identifying and correcting the errors.
	Convert the correct code into do while looping statement.
		4

	OR	

	(d) Observe the given code:
	int ctr=10;
	while(ctr>5)
	{
	ctr=ctr-2;
	}
	Attempt the following questions based on the above given code:
	i. How many times the above given loop will run and what will be the value of ctr, immediately after exiting from the loop.
	ii. Out of entry controlled or exit controlled loop, above given loop will come under which category and why?	

	(e) Study the following code and answer the questions that follow:
	String str="Green World, Clean World";
	int len=str.length(),remain;
	remain=100-len;
	jTextField2.setText(str.toUpperCase());
	jTextField3.setText(Integer.toString(remain)+" more charachters can be entered");
	i. Predict the output displayed in text fields named jTextField2 and jTextField3 after running the above code.
	ii. Identify and name any two method of String class used in the above code.
		2

	OR	
	(e) Explain the purpose of pow() method with the help of suitable java code. Also mention that pow() method belongs to which class?	

	(f) Mr. Suman, a programmer in New Era Programming World has designed a registration page for a hobby club as shown below:  Fee for different hobbies are as follows: Hobby Fee Dancing 1000 Drawing 1500 Music 2000 Singing 2500 Help him in writing the code to do the following: i. As per the hobby chosen in the hobby combo box, fee should be displayed in the respective text field named t1 as per the criteria given above after clicking on "Check Fee" button. ii. If a candidate belongs to "Jr. Category" then a discount of 10% should be given in displayed in the text field. iii. After clicking on the "Net Fee" button, Net Fee should be calculated and displayed in the respective text field as per the given formula: Net Fee = Fee – Discount iv. Write suitable java code to close the application. v. Write java statement to add a new hobby "Reading" in the combo box at run time.	**6**
	OR	
	(f) Write java statement to make the Net Fee text field named txtNetFee un-editable at run time.	
5.	**(a)** Write any one similarity and one difference between primary key and unique Constraint	**2**
	(b) Ms. Pari, a beginner in SQL is not able to understand the meaning of "Cancelling a Transaction". Help her in understanding the same. Also mention suitable command for it	**2**
	(c) Consider the following tables Library given below:	**4**

Library

Bid	Name	Author	Price	Mem_name	Issue_Date	Status
B01	Wings of Fire	A.P.J Abdul Kalam	550	Sarita	2018-05-20	Returned
B02	The Monk who sold his Ferrari	Robin Sharma	340	Simmi	2018-03-15	Not Returned
B03	You can win	Shiv Khera	230	Rajat	2018-04-16	Returned
B04	Who moved my cheese	Spencer Jhonson	450	Ram	2018-03-17	Not Returned
B05	Real Success	Patrick Mather-Pike	250	Sia	2018-06-18	Not Returned

i. Suggest the suitable data type for Issue_Date column.
ii. Suggest the suitable SQL command to change the size of column name from 30 character to 50 characters.
iii. Mention the significance of Bid column in table Library.
iv. Suggest the suitable command to display a list of the books in a sequence so that first all the book's name should be displayed which has not been returned and after that all the book's name which has been returned should be displayed.

(d) Rishi, a class XII student has given following commands for the given purposes: **2**
i. To add a new column "Rating" :
update table library add column rating varchar(20);
ii. To give an increase of 50 Rs. to all the books:
alter library set price=price+50;
Check if above given SQL commands will be able to achieve desired task or not. Justify your answer. Suggest the correction (s) if required.

6. **(a)** Write SQL query to create a table "BOOKS" with the following structure: **2**

Table: BOOKS

Field name	Datatype	Size	Constraint
BOOK_ID	Integer	2	Primary Key
BOOK_NAME	Varchar	20	
CATEGORY	Varchar	10	
ISSUE_DATE	Date		

OR

(a) Help Ramesh in identifying any two columns for a table named student along with their suitable data type

(b) In a Bank's database, there are two tables 'Customer' and 'Transaction' as shown below.

Customer

Acc_No	Cust_Name	Cust_City	Cust_Phone	Open_Bal
2101001	Sunita	Ambala	9710557614	10000
2201002	Sandhya	Patna	8223545233	15000
2301003	Vivek	New Delhi	9972136576	13000
2401004	Meena	New Delhi	9321305453	10000

Transaction

Trans_Id	Acc_No	Transaction_Type	Amount
Tr001	2301003	Credit	15000
Tr002	2201002	Credit	20000
Tr003	2101001	Debit	3500
Tr004	2301003	Credit	26000
Tr005	2301003	Credit	24000

Consider these tables while attempting the questions given below:

(i) Identify the candidate keys of Customer table.	**1**
OR	
(i) Briefly explain the concept of Candidate keys.	
(ii) Which column can be considered as foreign key column in Transaction table?	**1**
OR	
(ii) Identify Primary Key column of Transaction table.	
(c) With reference to the above given tables, attempt the questions given below: (i) Write a query to display customer's name who has withdrawn the money.	**9**
OR	
(i) Write a query to display customer's name along with their transaction details.	
(ii) Write a query to display customer's name who have not done any transaction yet.	
OR	
(ii) How many rows and column will be there in the Cartesian product of the above given tables. Also mention the degree and cardinality of the Cartesian product of the above given tables.	
(iii) Select Acc_No, sum(Amount) from Customer c, Transaction t where c.Acc_No=t.Acc_No group by c.Acc_No having Transaction_Type="Credit";	
OR	
(iii) Discuss the significance of having clause with group by statement with suitable example	
7. **(a)** It's an era of online financial transactions. Help Julie in identifying any two challenges which a common man may face for the same.	**2**

	(b) Mention any one major environmental benefits of ICT to Ms. Megha so that she can utilize it in her future "Save Earth" campaign	**1**
	(c) Ms. Achla, works as a Programmer in a survey firm named "National Survey Foundation". In her current project, she is supposed to design a survey page for an online educational training program. Help her in choosing the most appropriate controls for the specified task from Textfield, Label, RadioButton, CheckBox, ListBox, ComboBox, Button and write in the third column:	**2**

S. No.	Control used to input	Control
1	TRAINEE'S NAME	
2	TRAINING LOCATION	
3	GRADE THE SESSION (Excellent, Good, Satisfactory, Unsatisfactory)	
4	SUGGESTIONS	