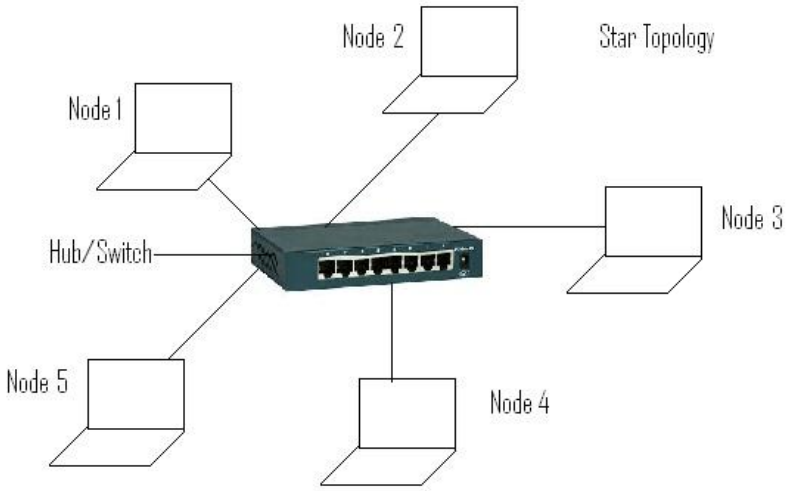
Informatics Practices (Code: 065)

Class XII (2015-16)

	Time: 3Hrs.		MM: 70
1	(a)	The 'Chalchitra' theatre has a computer network. The network is in one building. (i) Name this type of network(out of LAN/MAN/WAN). (ii) Name one communication channel that can be used for fast communication between workstations of the network.	(2)
	(b)	Explain in brief any 2 security threats to Computer networks.	(2)
	(c)	Write the advantages of using Unicode to represent text.	(2)
	(d)	Write one example each of URL and IP address.	(2)
	(e)	Identify the topology shown below. Write 2 advantages of this topology.  	(2)
2	(a)	While working in Netbeans, Ms. Sonia has designed a login page where she wants to display **"Welcome"** or **"Try again"** message depending on the password entered by the user in text field named 'jTexField1'. If password entered is "India", 'Welcome' message should be displayed otherwise 'Try again' message should be displayed. Help her in choosing more appropriate statement out of 'If statement' and 'Switch statement'. Give reason for your choice.	(1)

	(b)	Write Java code to assign the value 10 to variable x and store its square value in another variable y.	(1)

	(c)	Deepti works as a programmer in a travel company. She has developed the following code to display travel detail according to user's choice. Help her in rewriting the same code using SWITCH CASE:
		
		`if(choice==1)`
		`  jTextField1.setText("New Delhi to Goa");`
		`else if(choice==2)`
		`  jTextField1.setText("New Delhi to Paris");`
		`else if(choice==3)`
		`  jTextField1.setText("New Delhi to Bangkok");`
		`else`
		`  jTextField1.setText("Pl. choose valid option");`
			(2)

	(d)	Shambhavi has to design two web pages with following specifications: i. One web page should have an unordered list. ii. Another web page should have background "Yellow" in colour. Suggest her suitable tag(s) and attribute(s) for the above specifications.	(2)

	(e)	Albert works as a website developer in Global Website Designers company. Currently he has created following tags in XML:
		`<STUDENT>...</STUDENT>`
		`<Student>....</Student>`
		
		Are these tags part of HTML code or XML code?
		Are these same same or different?
			(2)

	(f)	How many times will the loop execute?
		
		`int value1 =7,value2=19;`
		`do`
		`{`
		`  JOptionPane.showMessageDialog(null,value1+value2);`
		`  value1=value1+2;`
		`  value2=value2-2;`
		`}while(value1<=value2);`
			(2)

3	(a)	Consider the table 'empsalary'.	(1)

		<table><tr><th>ID</th><th>Salary</th></tr><tr><td>101</td><td>43000</td></tr><tr><td>102</td><td>NULL</td></tr><tr><td>104</td><td>56000</td></tr><tr><td>107</td><td>NULL</td></tr></table> To select tuples with some salary ,Siddharth has written the following erroneous SQL statement: `SELECT ID, Salary FROM empsalary WHERE Salary = something;` Write the correct SQL statement.	
	(b)	Consider the table 'Employee'. **Employee** <table><tr><th>Name</th><th>Location</th></tr><tr><td>Gurpreet</td><td>Mumbai</td></tr><tr><td>Jatinder</td><td>Chennai</td></tr><tr><td>Deepa</td><td>Mumbai</td></tr><tr><td>Harsh</td><td>Chennai</td></tr><tr><td>Simi</td><td>New Delhi</td></tr><tr><td>Anita</td><td>Bengaluru</td></tr></table> Write the SQL command to obtain the following output :	(1)

		Location Mumbai Chennai New Delhi Bengaluru	
	(c)	While creating the table Student last week, Ms. Sharma forgot to include the column Game_Played. Now write a command to insert the Game_Played column with VARCHAR data type and 30 size into the Student table?	(1)
	(d)	In Marks column of 'Student' table, for Rollnumber 2, the Class Teacher entered the marks as 45. However there was a totaling error and the student has got her marks increased by 5. Which MySQL command should she use to change the marks in 'Student' table.	(1)
	(e)	Consider the table 'Teacher' given below. **TeacherId** | **Department** | **Periods** T101 | SCIENCE | 32 T102 | NULL | 30 T103 | MATHEMATICS | 34 What will be the output of the following queries on the basis of the above table: **(i)Select count(Department) from Teacher;** **(ii)Select count(*) from Teacher;**	(2)

	(f)	Consider the **Stu** table | ROLLNO	NAME
---	---
1	Ashi
2	Bimmi

4	Aakash	
		
		The following SQL queries are executed on the above table
		
		`INSERT INTO Stu VALUES(5,'Gagan');`
		`COMMIT;`
		`UPDATE Stu SET name='Abhi' WHERE Rollno = 4`
		`SAVEPOINT A;`
		`INSERT INTO Stu VALUES(6,'Chris');`
		`SAVEPOINT B;`
		`INSERT INTO Stu VALUES(7,'Babita');`
		`SAVEPOINT C;`
		`ROLLBACK TO B;`
		
		What will be the output of the following SQL query now:
		`SELECT * FROM Stu;`
			(2)

	(g)	An attribute A of datatype varchar(20) has the value “Amit” . The attribute B of datatype char(20) has value ”Karanita” .	(2)

		How many characters are occupied in attribute A ? How many characters are occupied in attribute B?	
4	(a)	Following is a list of programming languages: BASIC, COBOL, C, JAVA Help Sandhya in identifying Object Oriented language(s) from the above given list.	(1)
	(b)	Satyam is designing a frame in Netbeans containing list box. Help him in writing suitable Java statement to extract selected item from a given listbox named "jList1."	(1)

	(c)	What will be displayed in jTextField1 and jTextField2 after the following code is executed:
		
		`int number = 12;`
		`if (number <15)`
		`{`
		`jTextField1.setText(""+ number) ;`
		`number++;`
		`jTextField2.setText(""+ number) ;`
		`}`
		`else`
		`{`
		`jTextField1.setText("number1") ;`
		`number++;`
		`jTextField2.setText("number2") ;`
		`}`
			(1)

	(d)	Find output of the following Java code snippet:
		
		`String City="Delhi",PinCode="110001",Str="";`
		`City=City+" "+PinCode;`
		`JOptionPane.showMessageDialog(null,City);`
		`int l=City.length();`
		`int i=0;`
		`while(i<l)`
		`{`
		`Str=Str+City.substring(6);`
		`i=i+15;`
		`}`
		`JOptionPane.showMessageDialog(null,Str);`
			(2)

	(e)	Rewrite the following code using WHILE loop:
		`int x=100;`
		`for(int i=2;i<=22;i=i+4)`
		`{`
			(2)

```
 jTextArea1.append("\n"+(i+x));
 x=x-2;
}
```

(f) The following code has error(s). Rewrite the correct code underlining all the corrections made : (2)

```
int n=5,int i=1,f=1;
do;
{
f=f*i;
i++;
while(i<=n)
jTextField1.setText(""+f);
```

(g) Mr. Pawan works as a programmer in "ABC Marketing Company" where he has designed a Salary generator software to generate the salary of salesman in which Name and Salary are entered by the user. A screenshot of the same is shown below:

Help him in writing the code to do the following:

i. After selecting appropriate Radio Button, when 'Commission' button is clicked, commission should be displayed in the respective text field as each Salesman will get a commission based on the units sold according to the following criteria: 2

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		<table><tr><th>Units Sold</th><th>Commission (in Rs)</th></tr><tr><td>1 to 20</td><td>500</td></tr><tr><td>20 to 40</td><td>1000</td></tr><tr><td>>40</td><td>2000</td></tr></table> ii. When 'Gross Salary' button is clicked, Gross Salary should be calculated and displayed in the respective text field as per the given formula: Gross Salary= Salary+Commission iii. After required selection of Checkbox(es), when 'Facility Charges' button is clicked, Facility charges will be displayed in the respective text field according to the following criteria: <table><tr><th>Facility</th><th>Charges</th></tr><tr><td>Transport</td><td>500</td></tr><tr><td>Mess</td><td>2000</td></tr></table> iv. Money will be deducted from the Gross Salary according to the facilities opted by the employee. When 'Net Salary' button is clicked, Net Salary should be calculated and displayed in the respective text field as per the given formulae: Net Salary= Gross Salary-Deductions	1 2 1
5	(a)	Mrs. Sharma is the classteacher of Class 'XII A' She wants to create a table 'Student' to store details of her class. i) Which of the following can be the attributes of Student table? a) RollNo b) "Amit" c) Name d) 25 ii) Name the Primary key of the table 'Student'. State reason for choosing it.	2
	(b)	Write the output of the following SQL queries: i) `SELECT TRUNCATE(8.975,2);`	(2)

```
ii) SELECT MID('HONESTY WINS',3,4);
iii) SELECT RIGHT(CONCAT('PRACTICES','INFORMATICS'),5);
iv) SELECT DAYOFMONTH('2015-01-16');
```

(c) Table "Emp" is shown below. Write commands in SQL for (i) to (iv) and output for (v) and (vi) (6)

ID	NAME	AGE	ADDRESS	SALARY	PHONE
1	Siddharth	25	A-4, Ashok Vihar, Delhi	62000	98110766656
2	Chavi	23	B-21, Model Town, Mumbai	71000	99113423989
3	Karan	26	KC-24, North Avenue, Bhopal	65000	98105393578
4	Raunaq	22	A-152, Gomti Nagar, Lucknow	89000	99101393576
5	Kunal	27	B-5/45, Uday Park, Delhi	80000	97653455654

i. To display list of all employees below 25 years old.

ii. To list names and respective salaries in descending order of salary.

iii. To count the number of employees with names starting with 'K'

iv. To list names and addresses of those persons who have 'Delhi' in their address.

```
v. SELECT Name, Salary FROM Emp where salary between 50000 and 70000;
```

vi. `SELECT Name, phone from emp where phone like '99%';`

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<table>
<tr><td>6</td><td>(a)</td><td>Write SQL query to create a table ‘Player’ with the following structure:

<table><tr><td>Field</td><td>Type</td><td>Constraint</td></tr><tr><td>playerid</td><td>Integer</td><td>Primary key</td></tr><tr><td>name</td><td>Varchar(50)</td><td></td></tr><tr><td>height</td><td>Integer</td><td></td></tr><tr><td>weight</td><td>Integer</td><td></td></tr><tr><td>datebirth</td><td>Date</td><td></td></tr><tr><td>teamname</td><td>Varchar(50)</td><td></td></tr></table></td><td>2</td></tr>
<tr><td></td><td>(b)</td><td>Consider the tables given below.

Salesperson

<table><tr><th>SalespersonId</th><th>Name</th><th>Age</th><th>Salary</th></tr><tr><td>1</td><td>Ajay</td><td>61</td><td>140000</td></tr><tr><td>2</td><td>Sunil</td><td>34</td><td>44000</td></tr><tr><td>5</td><td>Chris</td><td>34</td><td>40000</td></tr><tr><td>7</td><td>Amaaya</td><td>41</td><td>52000</td></tr></table>
Orders

<table><tr><th>OrderId</th><th>SalespersonId</th><th>Amount</th></tr><tr><td>10</td><td>2</td><td>54000</td></tr><tr><td>20</td><td>7</td><td>18000</td></tr><tr><td>30</td><td>1</td><td>46000</td></tr></table></td><td>2</td></tr>
</table>

		<table><tr><td>40</td><td>5</td><td>24000</td></tr></table> i. The SalespersonId column in the "Salesperson" table is the _____ KEY.The SalespersonId column in the "Orders" table is a _____ KEY. ii. Can the 'SalespersonId' be set as the primary key in table 'Orders'. Give reason.	
	(c)	With reference to the above given tables (in Q6 b), Write commands in SQL for (i) and (ii) and output for (iii) below: i. To display SalespersonID, names, orderids and order amount of all salespersons. ii. To display names ,salespersons ids and order ids of those sales persons whose names start with 'A' and sales amount is between 15000 and 20000. iii. `SELECT SalespersonId, name, age, amount FROM Salesperson, orders WHERE Salesperson.salespersonId= Orders.salespersonId AND AGE BETWEEN 30 AND 45;`	6
7	(a)	'Bachpan Toys' is a small company manufacturing toys. They have decided that it would be beneficial to the company to create a website which would allow customers to order toys on-line. State how 'Bachpan Toys' would benefit from the website.	(2)
	(b)	Which of the following is/are the advantage(s) of e-Governance i) technology makes governance speedier ii) Computer literacy and basic Internet usage is not required. iii) governance is made transparent, that is most of the information is available to public.	(1)
	(c)	Lakshmi works for a school. She wishes to create controls on a form for the following functions. Choose appropriate controls from Text field, Label, Radio button, Check box, List box, Combo box, Button and write in the third column. <table><tr><td>S. No.</td><td>Control used to</td><td>Control</td></tr><tr><td>1</td><td>Enter Admission number</td><td></td></tr><tr><td>2</td><td>Select Stream</td><td></td></tr></table>	(2)

		3	Select Subject		
		4	Clear the Form		