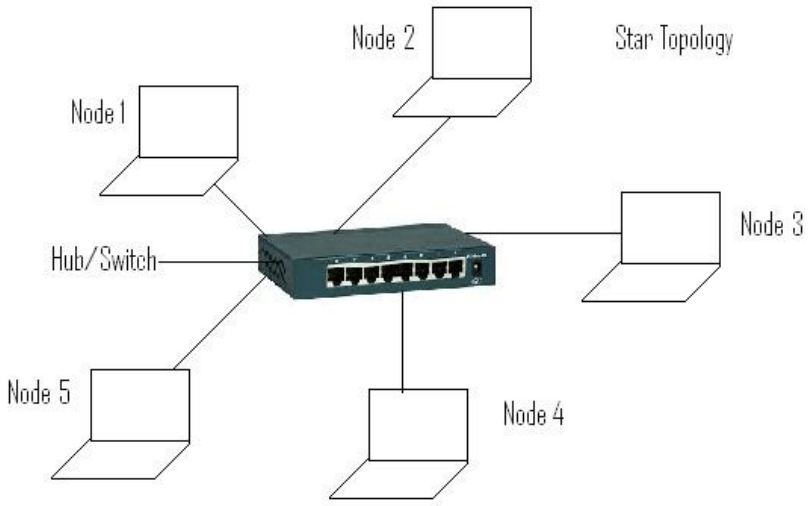
Informatics Practices (Code: 065)

Marking Scheme Sample Paper2

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)
	Ans:	i.LAN ii. Optical fiber cable ***(1 mark for each correct answer)***	
	(b)	Explain in brief any 2 security threats to Computer networks.	(2)
	Ans:	1. Denial of service attack: It is an attempt to make one or more network resources unavailable to their legitimate users. 2. Snooping:It is gaining unauthorised access to another person's or organization's data. ***(1 mark for each correct explanation)***	
	(c)	Write the advantages of using Unicode to represent text.	(2)
	Ans:	Unicode encoding standard provides the basis for processing, storage and interchange of text data in any language in all modern software and information technology protocols. ***(2 marks for mentioning correct advantages of Unicode)***	
	(d)	Write on example each of URL and IP address.	(2)
	Ans:	URL http://www.cbse.nic.in/welcome.htm IP address 122.176.185.219 ***(1 mark for each correct example)***	
	(e)	Identify the topology shown below. Write 2 advantages of this topology.	(2)

			
	Ans:	Star Topology Two advantages are as follows: 1. Easy to install 2. Easy to diagnose the fault ***(1 mark for identifying correct topology)*** ***(½ mark for mentioning each correct advantage)***	
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'.	(1)
	Ans:	IF statement as String matching can only be done through if statement. ***(½ mark for correct statement identification)*** ***(½ mark for correct reason specification)***	
	(b)	Write Java code to assign the value 10 to variable x and store its square value in another variable y.	(1)

	Ans:	`x=10;`
		`y=x*x;`
		
		(½ mark for each correct statement)	

	(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)

	Ans:	**switch(choice)** **{** **case 1:** **jTextField1.setText("New Delhi to Goa");** **break;** **case 2:** **jTextField1.setText("New Delhi to Paris");** **break;** **case 3:** **jTextField1.setText("New Delhi to Bangkok");** **break;** **default:** **jTextField1.setText("Pl. choose valid option");** **}** ***(2 marks for correct converted code)***	
	(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)
	Ans:	**i. <UL> <LI>** **ii. <body> tag and bgcolor attribute** ***(1 mark each for each correct answer)***	
	(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)
	Ans:	These tags are part of XML code. These tags are different. ***(1 mark for mentioning XML)*** ***(1 mark for correct identification)***	
	(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)
	Ans :	4 times. ***(2 marks for mentioning correct output)***	
3	(a)	Consider the table 'empsalary'.	(1)

ID	Salary
101	43000
102	NULL
104	56000
107	NULL

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.

Ans:

```
SELECT ID, Salary FROM empsalary WHERE Salary is NOT NULL;
```

(1 mark for correct SQL statement)

(b) Consider the table 'Employee'. (1)

Employee

Name	Location
Gurpreet	Mumbai
Jatinder	Chennai
Deepa	Mumbai
Harsh	Chennai
Simi	New Delhi
Anita	Bengaluru

Write the SQL command to obtain the following output :

Location
Mumbai
Chennai
New Delhi
Bengaluru

	Ans:	**`SELECT DISTINCT Location FROM Employee;`** ***(1 mark for correct SQL statement)***	
	(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)
	Ans:	Alter Table Student Add (Game_Played VARCHAR(30)); ***(1 mark for correct MySQL command)***	
	(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)
	Ans:	**`UPDATE command`** ***(1 mark for correct SQL answer)***	
	(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)
	Ans:	i. 2 ii. 3 ***(1 mark for each correct answer)***	
	(f)	Consider the **Stu** table **ROLLNO** | **NAME** 1 | Ashi	(2)

		<table><tr><td>2</td><td>Bimmi</td></tr><tr><td>4</td><td>Aakash</td></tr></table> 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;**	
	Ans:	**Output:** 1 Ashi 2 Bimmi 4 Abhi 5 Gagan 6 Chris ***(2 mark for correct output)***	
	(g)	An attribute A of datatype varchar(20) has the value “Amit” . The attribute B of datatype char(20) has value ”Karanita” . How many characters are occupied in attribute A ? How many characters are occupied in attribute B?	(2)
	Ans:	4, 20 ***(1 mark for each correct answer)***	
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)

	Ans:	Java ***(1 mark for correct identification of OOP language)***	
	(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)
	Ans:	`jList1.getSelectedIValue();` ***(1 mark for correct answer)***	

	(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)

	Ans:	12 13 ***(½ mark for each correct answer)***	

	(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)

	Ans:	**Delhi 110001** **110001** ***(1 mark for each correct output)***	

	(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;`
		`}`	

	Ans:	`int x=100;`
		`int i = 2;`
		`while (i<=22)`
		`{`
		`jTextArea1.append("\n"+(i+x));`
		`x=x-2;`
		`i = i+4;`
		`}`
		(2 mark for correct code through WHILE loop)	

	(f)	The following code has error(s). Rewrite the correct code underlining all the corrections made :
		`int n=5,int i=1,f=1;`
		`do;`
		`{`
		`f=f*i;`
		`i++;`
		`while(i<=n)`
		`jTextField1.setText(""+f);`
			(2)

	Ans:	`int n=5,i=1,f=1;`
		`do`
		`{`
		`f=f*i;`
		`i++;`
		`}while(i<=n);`
		`jTextField1.setText(""+f);`
		
		(½ mark for each correct error correction)	

	(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:	

2

Help him in writing the code to do the following:

1

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

Units Sold	Commission (in Rs)
1 to 20	500
20 to 40	1000
>40	2000

ii. When 'Gross Salary' button is clicked, Gross Salary should be calculated and displayed in the respective text field as per the given formulae:

1

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:

Facility	Charges
Transport	500
Mess	2000

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	

	Ans :	i. Code to calculate and display commission:
		`int com=0;`
		`if(jRadioButton1.isSelected())`
		`com=500;`
		`else if(jRadioButton2.isSelected())`
		`com=1000;`
		`else if(jRadioButton3.isSelected())`
		`com=2000;`
		`jTextField3.setText("”+com);`
		
		(½ mark for each correct if-else if statement)
		(½ mark for displaying commission value)
		
		ii. Code to calculate and display Gross Salary:
		
		`int sal,comm;`
		`sal=Integer.parseInt(jTextField2.getText());`
		`comm=Integer.parseInt(jTextField3.getText());`
		`jTextField4.setText("”+(sal+comm));`
		
		(½ mark for fetching values)
		(½ mark for displaying Gross Salary)
		
		iii. Code to calculate and display charges for the facilities:
		`int extra=0;`
		`if(jCheckBox1.isSelected())`
		`extra=extra+500;`
		`if(jCheckBox2.isSelected())`
		`extra=extra+2000;`
		`jTextField5.setText("”+extra);`
		
		(½ mark for initializing variable extra with 0)
		(½ mark for each correct if statement)
		(½ mark for displaying extra facility charges)
		
		iv. Code to calculate and display the Net Salary
		`int amt,extra;`
		`amt=Integer.parseInt(jTextField4.getText());`
		`extra=Integer.parseInt(jTextField5.getText());`
		`jTextField6.setText("”+(amt-extra));`
		
		(½ mark for fetching values)
		(½ mark for displaying Net Salary)	

<table>
<tr><td>5</td><td>(a)</td><td>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.</td><td>2</td></tr>
<tr><td></td><td>Ans:</td><td>i. a) RollNo b) Name

(½ mark for each correct answer)
ii.Primary Key: RollNo as it will be unique for each student of the class.
(½ mark for identifying Primary key)
(½ mark for stating correct reason)</td><td></td></tr>
<tr><td></td><td>(b)</td><td>Write the output of the following SQL queries:
i) SELECT TRUNCATE(8.975,2);
ii) SELECT MID(‘HONESTY WINS’,3,4);
iii) SELECT RIGHT(CONCAT(‘PRACTICES’,’INFORMATICS’),5);
iv) SELECT DAYOFMONTH(‘2015-01-16’);</td><td>2</td></tr>
<tr><td></td><td>Ans:</td><td>i. 8.97
ii. NEST
iii. ATICS
iv. 16
(½ mark for each correct output)</td><td></td></tr>
<tr><td></td><td>(c)</td><td>Table “Emp” is shown below. Write commands in SQL for (i) to (iv) and output for (v) and (vi)

<table>
<tr><th>ID</th><th>NAME</th><th>AGE</th><th>ADDRESS</th><th>SALARY</th><th>PHONE</th></tr>
<tr><td>1</td><td>Siddharth</td><td>25</td><td>A-4, Ashok Vihar, Delhi</td><td>62000</td><td>98110766656</td></tr>
<tr><td>2</td><td>Chavi</td><td>23</td><td>B-21, Model Town, Mumbai</td><td>71000</td><td>99113423989</td></tr>
<tr><td>3</td><td>Karan</td><td>26</td><td>KC-24, North Avenue, Bhopal</td><td>65000</td><td>98105393578</td></tr>
<tr><td>4</td><td>Raunaq</td><td>22</td><td>A-152, Gomti Nagar, Lucknow</td><td>89000</td><td>99101393576</td></tr>
<tr><td>5</td><td>Kunal</td><td>27</td><td>B-5/45, Uday Park, Delhi</td><td>80000</td><td>97653455654</td></tr>
</table></td><td>6</td></tr>
</table>

		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%';**	
	Ans:	**MySQL Commands:** **i. SELECT * FROM Emp WHERE AGE<25;** **ii. SELECT NAME,SALARY FROM Emp ORDER BY SALARY desc;** **iii. SELECT COUNT(*) FROM Emp WHERE NAME LIKE "K%";** **iv. SELECT NAME,ADDRESS FROM Emp WHERE ADDRESS LIKE"%Delhi%";** ***(1 mark for each correct query)*** OUTPUT **v.** Siddharth 62000 Karan 65000 **vi.** **Chavi** 99113423989 **Raunaq** 99101393576 ***(1 mark for each correct output)***	
6	(a)	Write SQL query to create a table 'Player' with the following structure: Field | Type | Constraint playerid | Integer | Primary key name | Varchar(50) | height | Integer | weight | Integer | datebirth | Date | teamname | Varchar(50) |	(2)
	Ans:	**CREATE TABLE Player (** **playerID integer PRIMARY KEY,** **name varchar(50),** **height integer,** **weight integer,** **datebirth date,** **teamname varchar(50));**	

		(½ Mark for CREATE TABLE Player) *(½ Mark for constraint)* *(½ Mark for correct data types)* *(½ Mark for correct column)*	
	(b)	Consider the tables given below. **Salesperson** **SalespersonId** | **Name** | **Age** | **Salary** 1 | Ajay | 61 | 140000 2 | Sunil | 34 | 44000 5 | Chris | 34 | 40000 7 | Amaaya | 41 | 52000 **Orders** **OrderId** | **SalespersonId** | **Amount** 10 | 2 | 54000 20 | 7 | 18000 30 | 1 | 46000 40 | 5 | 24000 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.	(2)
	Ans:	i. Primary, Foreign ii. No as it may be repeated in Orders table. ***(1 mark for correct column name)***	
	(c)	With reference to the above given tables (in Q6 b), Write commands in SQL for (i) and (ii) and output for (iii) below:	(6)

		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;**	
	Ans:	i. **SELECT S.SalespersonID, Name, OrderID, Amount FROM Salesperson S, Orders O WHERE S.SalespersonID= O.SalespersonID;** ***(1 mark for correct use of select and from)*** ***(1 mark for correct use of where clause)*** **ii. SELECT Name,S.SalespersonID,OrderID FROM Salesperson S, Orders O WHERE S. SalespersonID=O.SalespersonID AND Name LIKE "A%" AND Amount BETWEEN 15000 AND 20000;** ***(1 mark for correct use of select, from and where clause)*** ***(½ mark for correct use of like operator)*** ***(½ mark for correct use of between operator/checking specified amount range)*** iii. 2 Sunil 34 54000 5 Chris 34 24000 7 Amaaya 41 18000 ***(2 mark for correct output)***	
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)
	Ans:	Through online marketing (e-business) they can reach to many customers of far away places in a cost effective manner. Also there is no need to incur huge cost of setting up a shop/store to sell items. ***(1 mark for each correct point)***	
	(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)
	Ans:	i) and iii) ***(½ mark for each correct advantage of e-Governance)***	

	(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.	(2)

S. No.	Control used to	Control
1	Enter Admission number	
2	Select Stream	
3	Select Subject	
4	Clear the Form	

Ans:

S.No	Control used to	Control
1	Enter Admission number	Text field
2	Select Stream	List box/ Combo box /Radio button
3	Select Subject	Check box
4	Clear the Form	Button

(½ mark for each correct control)