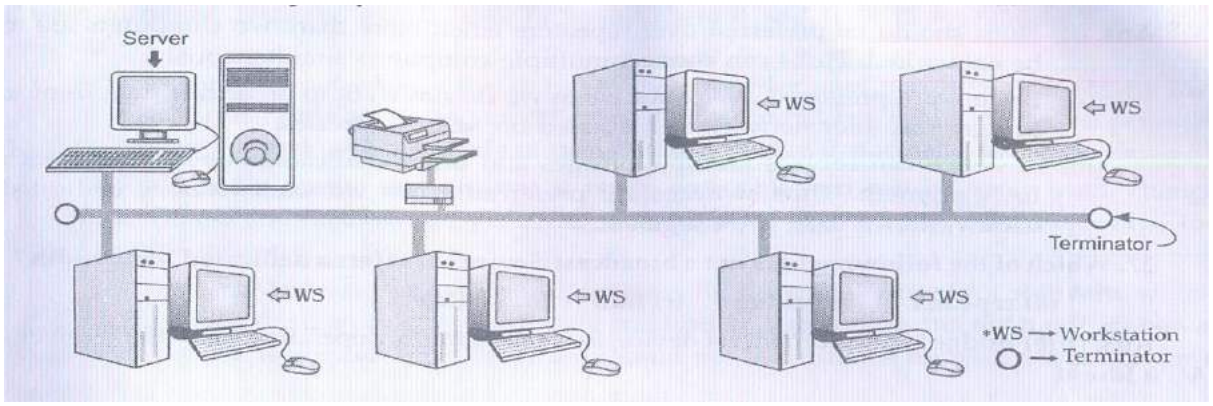
Marking Scheme
Class XII
Informatics Practices (Code: 065)
2014-15

Time: 3Hrs.			MM: 70
1	(a)	Draw a network layout of bus topology to connect 5 client computers and 1 server computer.	(1)
	Ans:	 **(½ mark for correct network topology and ½ mark for correct no of computers)**	
	(b)	Mr. John wants to prevent unauthorized access to/from his company's local area network. Write the name of a system (software/ hardware), which he should install to do the same.	(1)
	Ans:	He should install Firewall. **(1 mark for correct answer)**	
	(c)	Which of the following are open source softwares : GNU, MS-Office, BOSS, Windows OS	(1)
	Ans:	GNU, BOSS **(½ mark for each correct answer)**	
	(d)	Name the government organization that contributes to the growth of FOSS in India.	(1)
	Ans:	National Resource Centre for Free and Open Source Software (NRCFOSS) is the government organization that contributes to the growth of FOSS in India. **(1 mark for correct answer)**	

	(e)	Read the given activities carefully and mention in front of the activity whether that activity is snooping or eavesdropping: i. Getting someone's login information by casually watching what he/she is typing. ii. Setting up unauthorized parallel telephone lines iii. Installing some software/hardware which captures the data while on its way. iv. Reading the files on someone's computer in an unauthorized manner.	(2)
	Ans:	i. Snooping. ii. Eavesdropping iii. Eavesdropping. iv. Snooping. **(½ mark for each correct answer)**	
	(d)	Kristen has typed the following text in the address bar: http://www.cbse-international.com/help.htm Explain to her the main concept of URL and Domain name with reference to the example given above.	(2)
	Ans:	URL (Uniform Resource Locator) is the complete address of a document on the web, whereas a domain name specifies the location of document's web server. A domain name is a component of the URL used to access web sites. For example the web address http://www.cbse-international.com/help.htm is a URL. In this URL www.cbse-international.com is the domain name. **(1 mark for differentiating between URL and domain name ½ mark for correctly identifying url and ½ mark for correctly identifying domain name)**	
	(e)	Chanakya has to write a paragraph in English on nobel laureates as a part of his holiday homework. He is using a software in which he types the text in Hindi and the software automatically converts the text into English. For example, if he types "नोबेल प्राइज इस गवेन इन सक्स कैटेगरीज" the software converts it into "Nobel Prize is given in six categories". What kind of text entry is it – phonetic text entry OR keymap based text entry? How is it different from the other kind of text entry?	(2)
	Ans:	It is phonetic text entry. It is different from keymap based text entry as in the keymap based text entry keyboard keys are mapped to specific characters using a keymap whereas in phonetic text entry text translation is done by some software based on probable pronunciation of the entered text. **(*1 mark for specifying "phonetic text entry"*)** **(*1 mark for specifying correct difference*)**	

2	(a)	In a java program Rajat wants to use a variable to store the quantity of an item which may be in whole numbers or decimals. Write a suitable java statement to declare the variable for the above mentioned purpose.	(1)
	Ans:	He can use float or double type of variable. double num; Or float num; **(1 mark for each correct declaration)**	

	(b)	What will be the values of num and num1 after execution of the following code:
		int num,num1=0;
		for(num=100;num<=101;num++)
		{
		num1= num+2;
		--num1;
		}
			(1)

	Ans:	The value of both num and num1 will be 102. **(½ mark for each correct answer)**	
	(c)	Zia is working with list box. She has placed a list control on her form to display the list of all items available in her shop. She wants to allow the user to select multiple items from her list control. Which property of jList should she use to do the same?	(1)
	Ans:	She should use the selectionMode property **(1 mark for correct answer)**	

	(d)	Raman has typed the following code:
		
		int ch=Integer.parseInt(jTextField1.getText());
		switch(ch)
		{
		case 1:jTextField2.setText("Service");
		case 2: jTextField2.setText("Complaint");
		case 3: jTextField2.setText("Operator");
		break;
		default: jTextField2.setText("Not a valid entry");
		}
		
		On entering the value 1, 2 or 3, he is getting the same output. Mention the possible reason for the same.
			(1)

	Ans:	Break statement is missing after every case. **(1 mark for correct answer)**	
	(e)	Jennifer wants to write html code to create an ordered list starting with "c". Help her in writing the code.	(2)

	Ans:	**<ol type= "a" start=3>** **(1 mark for OL)** **(½ mark for type)** **(½ mark for correct value of start)**	
	(f)	Write any two advantages of xml over html.	(2)
	Ans:	1. HTML is designed to display data and hence focused on the 'look' of the data, whereas XML is designed to describe and carry data and hence focuses on 'what data is'. 2. In HTML tags are predefined, while in XML, tags can be created as per needs. **(1 mark each for any two correct advantages)**	
	(g)	Write java code that take any three digit number from the user in jTextField1, calculate the sum of the digits and display it in separate textfield named jTextField2. For example If the number entered is 432, it should answers as 9 (i.e. 4+3+2).	(2)

	Ans :	int n=Integer.parseInt(jTextField1.getText());
		int result=0;
		while(n>0)
		{
		result = result+n%10;
		n=n/10;
		}
		jTextField2.setText(""+result);
		
		(1 mark for correct while loop)
		(½ mark for correct logic used inside while loop)
		(½ mark for displaying correct value)	

3	(a)	Saumya had previously created a table named 'Product' in a database using MySQL. Later on she forgot the table structure. Suggest to her the suitable MySQL command through which she can check the structure of the already created table.	(1)
	Ans:	Desc Product; OR Describe Product; (1 mark for correct answer)	
	(b)	Roli wants to list the names of all the tables in her database named 'Gadgets'. Which command (s) she should use to get the desired result.	(1)
	Ans:	Show tables; (1 mark for correct answer)	

	(c)	Kuhu has already created a table 'Hospital' as shown below: | Patient_No	Patient_Name	Disease	Age	Charges
---	---	---	---	---
P001	Alya	Viral Fever	14	500
P002	Kavita	Lung Infection	16	1500
P003	Manya	Cough and Cold	20	500
P004	Amar	Bone Fracture	22	2500
P005	Deep	Viral Fever	15	500	 Now she wants to add a new column 'Address' in the above given table. Suggest to her suitable MySQL command for the same.	(1)
	Ans:	Alter table Hospital add Address varchar(20);	
	(d)	Amit works as a database administrator in a Multinational bank. He wants to undo the changes made in the current transaction. Suggest to him a suitable MySQL command for the same.	(1)
	Ans:	Rollback	
	(e)	What will be the output of the following queries on the basis of Employee table: +-------+-------+--------+ | EmpId | EName | Salary | +-------+-------+--------+ | A001 | Bob | 5600 | | A002 | John | NULL | | A003 | Tom | 5000 | +-------+-------+--------+ (i)Select avg(Salary) from Employee; (ii) Select Salary+100 from Employee where EmpId='A002';	(2)
	Ans:	(i) mysql> Select avg(Salary) from Employee; +-------------+ | avg(Salary) | +-------------+ | 5300.0000 | +-------------+ (ii) mysql> Select Salary+100 from Employee where EmpId='A002'; +------------+ | Salary+100 | +------------+ | NULL | +------------+ **(1 mark for each correct output)**	

(f) A table named 'GAMES' has the following contents: (2)

GCode	GameName	Number_of_Players	PrizeMoney
101	Carom Board	2	5000
102	Badminton	2	12000
103	Table Tennis	4	8000

Write the output that will be displayed by statements (i) and (ii).

```
SELECT * FROM GAMES;
SET AUTOCOMMIT = 0;
INSERT INTO GAMES VALUES(105,'CHESS',2,9000);
ROLLBACK;
SAVEPOINT S1;
SELECT * FROM GAMES;  ------------ (i)
INSERT INTO GAMES VALUES(108,'LAWN TENNIS',4,25000);
SAVEPOINT S2;
INSERT INTO GAMES VALUES(109,'CRICKET',11,20000);
ROLLBACK TO  S2;
SELECT * FROM ITEM;  ------------ (ii)
```

Ans: **(i)**

GCode	GameName	Number_of_Players	PrizeMoney
101	Carom Board	2	5000
102	Badminton	2	12000
103	Table Tennis	4	8000

(ii)

GCode	GameName	Number_of_Players	PrizeMoney
101	Carom Board	2	5000
102	Badminton	2	12000
103	Table Tennis	4	8000
108	Lawn Tennis	4	25000

(1 *mark for each correct output*)

(g) Observe the given statements carefully: (2)

(i) SELECT * FROM club WHERE salary between 20000 and 30000;
(ii) SELECT * FROM club WHERE salary IN (20000, 30000);
(iii) SELECT * FROM club WHERE salary >= 20000 and salary <=30000;
(iv) SELECT * FROM club WHERE salary = 20000 OR salary = 30000;

Make pairs of the equivalent SQL statements given above (which give the same output) and place each pair in a group.

Ans: Group A
(i)

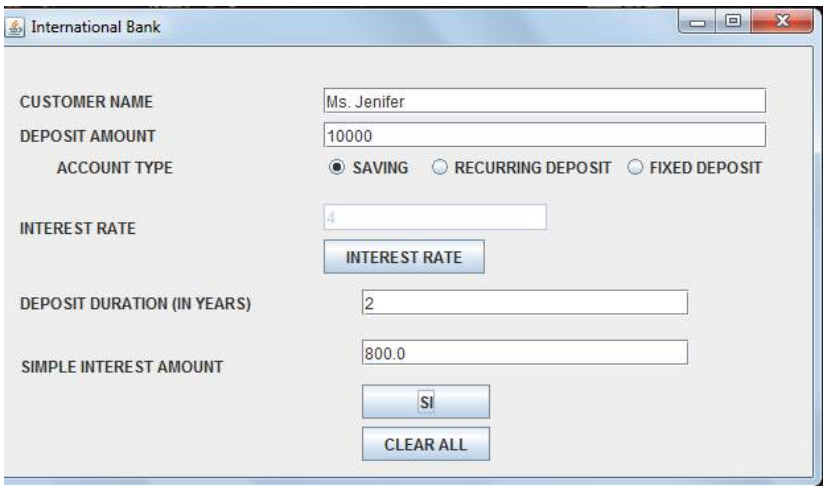
		(iii) Group B (ii) (iv) (½ Mark for each correct answer)	
4	(a)	Define inheritance with reference to object oriented programming.	(1)
	Ans:	Inheritance is a process of creating a new class (derived class or sub class) from existing class. The derived class not only inherits capabilities of the base class but also can add new features of their own. (1 mark for correct definition)	
	(b)	Given a String object named 'code' having value as "908" stored in it. What will be result of the following? JOptionPane.showMessageDialog(null, " " +(code.length( )+ Integer.parseInt(code)));	(1)
	Ans:	911 **(1 mark for correct answer)**	
	(c)	What will be displayed in jTextField1 and jTextField2 after the following code is executed: int num = 35 , num1 = 46 ; jTextField1.setText(num + num1 + " ") ; jTextField1.setText(" " + num + num1) ;	(1)
	Ans:	jTextField1 81 will be displayed jTextField2 3546 will be displayed. **(1 mark for each correct answer)**	

	(d)	Find output of the following java code snippet:
		String word="Highrise";
		String wordlc = word.toLowerCase();
		for (int i = 0; i < wordlc.length(); i+=4)
		{
		String extstr = wordlc.substring(i,i+2);
		jTextArea1.append(extstr+"\n");
		}
			(2)

	Ans:	hi ri **(*½ mark for each character of output*)**	
	(e)	Rewrite the following code using while loop: int a,b; for(a=10,b=4;a<=16;a++,b+=2){	(2)

		jTextArea1.append(""+a++);} JOptionPane.showMessageDialog(null,"Finished!!!");	

	Ans:	int a=10,b=4;
		while(a<=16){
		jTextArea1.append(""+a++);
		a++;
		b+=2;}
		JOptionPane.showMessageDialog(null,"Finished!!!");
		(*½ mark for correct while statement, ½ mark for correct increment statement and 1 mark for correct use of variables*)	

	(f)	The following code has error(s). Rewrite the correct code underlining all the corrections made : String str1 = SeemaSurakshabal ; int b; for(int b = 0 ; b < 3 , b++) { jTextArea1.showText(str1+"\n") ; str1 = str1 + b ; }	(2)
	Ans:	String str1 = **"SeemaSurakshabal" ;** int b; for(~~**int**~~ b = 0 ; b < 3 **;** b++) { jTextArea1.append(str1+"\n") ; str1 = str1 + b ; } **(½ mark for each correct error)**	
	(g)	Ms. Rakhi works in an International Bank as an IT Head. She designed a simple interest calculator program as shown below:  	(6)

The interest rate is given based on the account type as shown below:

ACCOUNT TYPE	INTEREST RATE %
SAVING	4 %
RECURRING DEPOSIT	6 %
FIXED DEPOSIT	8 %

i. Write the code required for 'INTEREST RATE' button to display interest rate as per the above given criteria.
ii. Write the code required for 'SI' button to calculate and display 'Simple Interest' based on the given formulae:
SI=(amount*interest_rate*duration)/100;
iii. Write the code required for 'CLEAR ALL' to clear all the textfields.

Ans :

i. Correct code required for 'INTEREST RATE' button to display interest rate as per the above given criteria:

```
if(R1.isSelected()==true)
   T3.setText("4");
else if(R2.isSelected()==true)
   T3.setText("6");
if(R3.isSelected()==true)
   T3.setText("8");
```

(1 mark for using correct if statement
1 mark for displaying interest rate value in the suitable text field)

ii. Correct code required for **'SI'** button

```
double amt=Double.parseDouble(T2.getText());
double int_rate=Double.parseDouble(T3.getText());
int year=Integer.parseInt(T4.getText());
double si=(amt*int_rate*year)/100;
T5.setText(""+si);
```

(1 mark for fetching values in suitable variables
1 mark for calculating and displaying SI)

iii

```
t1.setText("");
t2.setText("");
t3.setText("");
t4.setText("");
t5.setText("");
```

(1 mark for correct code)

5	(a)	Observe the table 'Club' given below: Club Member_id | Member_name | Address | Age | Fees M001 | Sumit | New Delhi | 20 | 1000 M002 | Nisha | Gurgaon | 19 | 1500 M003 | Niharika | New Delhi | 21 | 2100 M004 | Sachin | Faridabad | 18 | 1500 i. What is the cardinality and degree of the above given table? ii. If a new column contact_no has been added and two more members have joined the club then how these changes will affect the degree and cardinality of the above given table.	2
	Ans:	i. Cardinality:4 Degree: 5 (½ mark for each correct answer) ii. Cardinality: 6 Degree: 6 (½ mark for each correct answer)	

	(b)	Write the output of the following SQL queries:
		
		i. SELECT INSTR('INTERNATIONAL', 'NA');
		ii. SELECT LENGTH(CONCAT('NETWORK','ING'));
		iii.SELECT ROUND(563.345,-2);
		iv. SELECT DAYOFYEAR('2014-01-30');
			2

	Ans:	i. 6 ii. 10 iii. 600 iv. 30 (½ mark for each correct answer)	
	(c)	Pranay, who is an Indian, created a table named "Friends" to store his friend's detail. Table "Friends" is shown below. Write commands in SQL for (i) to (iv) and output for (v) to (vii). S_No | Name | Age | City | Country | Email_id 1 | Alice | 14 | Washington | USA | alice@gmail.com 2 | Charles | 12 | Copenhagen | Denmark | harles@yahoo.com 3 | Angel | 16 | Chicago | USA | angel@gmail.com 4 | Jasmine | 15 | Sydney | Australia | jasmine@yahoo.com 5 | Raj | 14 | New Delhi | India | raj@gmail.com	6

6	Jette	13	Nykobing	Denmark	jette@gmail.com
7	Alexender	15	Melbourne	Australia	NULL
8	Shashank	16	Banglore	India	NULL

i. To display list of all foreigner friends.
ii. To list name, city and country in descending order of age.
iii. To count how many friends have email id on gmail.
iv. To list name and city of those friends who don't have an email id.
v. Select name,country from friends where age>12 and name like 'A%';
vi. Select ucase(concat(name,"*",city)) from friends where country like 'Denmark';
vii. Select mid(name,1,4) as "UID" from friends where country like 'USA';

Ans:

i. Select name from friends where country not like "India";
ii. Select name,city,country from friends order by age desc;
iii. Select count(*) from friends where email_id like "%gmail%;
iv. Select name,city from friends where email_id is null;

(1 mark for each correct query)

OUTPUT

v.

Name	Age	Country
Alice	14	USA
Angel	16	USA
Alexender	15	Australia

vi.

Ucase(concat(name,"*",city))
Charles*Copenhagen
Jette*Nykobing

vii.

UID
Alic
Ange

(½ mark for each correct output)

6 (a) Write SQL query to create a table 'Bank_Customer' with the following structure: (2)

Field	Type	Constraint
Acc_No	Integer	Primary Key
Cust_Name	Varchar(20)	Not Null
Cust_Add	Varchar(20)	
Cust_City	Varchar(20)	

Ans:

```
Create table Bank_Customer
 (
Acc_No integer primary key,
Cust_Name varchar(20) not null,
Cust_Add varchar(20),
Cust_City varchar(20)
);
```

(½ Mark for CREATE TABLE Bank_Customer)
(½ Mark for appropriately putting constraints)
(½ Mark for correct data types)
(½ Mark for correct syntax of the query)

(b) In a Bank's database, there are two tables 'Customer_info' and 'Transaction__Detail' as shown below: (2)

Customer_info

Acc_No	Cust_Name	Cust_Add	Cust_City	Cust_Phone
1001001	Ram	Vasundhara Enclave	New Delhi	8710557614
1001002	Kavita	Punjabi Bagh	New Delhi	7123545233
1001003	Raj	Civil Lines	Allahabad	9872136576
1001004	Sohan	Krishnanagar	Kanpur	9921305453

Transaction_Detail

Trans_Id	Acc_No	Transaction_Type	Amount
T001	1001001	Credit	5000
T002	1001002	Credit	10000
T003	1001001	Debit	2000
T004	1001004	Credit	6000
T005	1001001	Credit	4000

i. Is it possible to have primary key and foreign key in one table? Justify your answer.
ii. A table can have maximum how many primary keys and foreign keys?

Ans: i. Yes, it is possible to have primary key and foreign key column in one table. Primary key column is used to uniquely identify each record of the table while foreign key column is used to maintain referential integrity.
As in the above given table 'Transaction_Detail', Trans_Id column is a primary key column while Acc_No column may act as a foreign key column.

(½ Mark for correct answer)
(½ Mark for correct justification)

ii. A table can have maximum one Primary Key

A table can have any number of foreign Keys

(½ Mark for each correct answer)

(c) Consider the tables 'Flights' & 'Fares' given below: (6)

Flights

FNO	SOURCE	DEST	NO_OF_FL	NO_OF_STOP
IC301	MUMBAI	BANGALORE	3	2
IC799	BANGALORE	KOLKATA	8	3
MC101	DELHI	VARANASI	6	0
IC302	MUMBAI	KOCHI	1	4
AM812	LUCKNOW	DELHI	4	0
MU499	DELHI	CHENNAI	3	3

Fares

FNO	AIRLINES	FARE	TAX
IC301	Indian Airlines	9425	5
IC799	Spice Jet	8846	10
MC101	Deccan Airlines	4210	7
IC302	Jet Airways	13894	5
AM812	Indian Airlines	4500	6
MU499	Sahara	12000	4

With reference to these tables, write commands in SQL for (i) and (ii) and output for (iii) below:

i. To display flight number, source, airlines of those flights where fare is less than Rs. 10000.
ii. To count total no of Indian Airlines flights starting from various cities.

iii. SELECT FLIGHTS.FNO, NO_OF_FL, AIRLINES FROM FLIGHTS,FARES WHERE FLIGHTS.FNO = FARES.FNO AND SOURCE='DELHI';

Ans: i. select flights.fno,source,airlines from flights,fares where flight.fno=fares.fno

<table>
<tr><td></td><td></td><td>and fare<10000;

(1 mark for correct use of select and from)
(1 mark for correct use of where clause)

ii. select sum(no_of_fl) from flights,fares where flights.fno=fares.fno group by source having Airlines='Indian Airlines';
(1 mark for correct use of select and from)
(1 mark for correct use of where and group by clause)

iii. MC101 6 Deccan Airlines
MU499 3 Sahara

(1 mark for each correct line of output)</td><td></td></tr>
<tr><td>7</td><td>(a)</td><td>What is the role of a good back-end in an IT application?</td><td>(1)</td></tr>
<tr><td></td><td>Ans:</td><td>A good back-end ensures sustainability, efficiency and easy modification of the application.
(1 mark for correct answer)</td><td></td></tr>
<tr><td></td><td>(b)</td><td>Identify e-Governance and e-Learning applications from the following:
i) On-line experiments in a virtual laboratory of a college.
ii) On-line application submission for change of address in the passport.
iii) On-line bill payment of Water Charges to Jal Board of any state.
iv) On-line tutorials for physics.</td><td>(2)</td></tr>
<tr><td></td><td>Ans:</td><td>E_Governance:
i) On-line bill payment of Water Charges to Jal Board.
ii) On-line application submission for change of address in the passport
e-Learning:
iii) On-line experiments in a virtual laboratory of a college.
iv) On-line tutorials for physics
(½ mark for correctly identifying each application)</td><td></td></tr>
<tr><td></td><td>(c)</td><td>Raghuram is working as a Manager in the Santushti Enterprises. He wants to create a form with following functions. Choose appropriate controls from Text Field, Label, Radio button, Check box, List, Combo box and write in the third column:

<table>
<tr><th>Sno</th><th>Control used to :</th><th>Control</th></tr>
<tr><td>1.</td><td>Enter the name</td><td></td></tr>
<tr><td>2.</td><td>Select the department from the available list</td><td></td></tr>
<tr><td>3.</td><td>Choose type of employee (Permanent / Regular)</td><td></td></tr>
</table></td><td>(2)</td></tr>
</table>

		4.	Display the picture of the employee	

Ans:

Sno	Control used to :	Control
1.	Enter the name	Text Field
2.	Select the department from the available list	Combo Box
3.	Choose type of employee (Permanent / Regular)	Radio Button
4.	Display the picture of the employee	Label