KENDRIYA VIDYALAYA SANGATHAN, ERNAKULAM REGION
INFORMATICS PRACTICES
CLASS XII
PRE-BOARD-I

Max Mark: 70   Time: 3 hrs

Instructions: (i) All Questions are compulsory
(ii) Programming language : Java, SQL
(iii)Read the questions carefully before answering

1 (a) Ankita wants to upload and download files from/to a remote Internet server, write the name   1
of the relevant communication protocol, which will let her do the same.

(b) Gireesh is confused about Wi-Fi.   1
(i)   Whether it is a Type of network cable
(ii)   Set of popular technologies and standards for wireless computer networking.
(iii)   Set of computer programs that help people log in to the Internet

(c) Jai Khanna is confused between the terms Domain Name and URL. Explain the difference   2
with the help of appropriate examples of each.

(d) Read the following activities carefully and mention whether the activity comes under   2
snooping or eavesdropping.
(i)   Reading data on someone's computer without authorization from the owner.
(ii)   Hearing a telephone conversation from the parallel line without making the
people in conversation aware of the same.
(iii)   Installing a software for capturing the data from someone else computers.
(iv)   Reading the chat conversation from behind the chair of the person who is chatting
with someone.

(e) What is the difference between static and dynamic fonts?   1

(f) Jayanto Das is confused between Shareware and OSS. Mention at least two points of   2
differences to understand the same.

(g) Name any two Indian scripts included under UNICODE.   1

2 (a) In a Java application Kiran wants to store name of a client, kindly suggest data type for the   1
variable to hold the same.

(b) What is the value of NUM1 and NUM2 after execution of the following Java code.   1
int NUM1, NUM2;
NUM1= 100;
for(NUM2= 1; NUM2<5; NUM2++)
{
    NUM1+= NUM2;
}

(c) Give difference between isSelected() and setSelected() methods used with Radio button.   2
Explain with suitable Java code.

(d) Name any one attribute of <A> tag of HTML.   1

(e) Priya has typed the following code   2

```
int n= Int.passInt(jTextField1.getText);
if(n>100)
   jTextField2.SETText(" Largest Number");
else if(n>50)
   jTextField2.setText("Middle Number");
else
   jTextField2.setText(" Lowest Number");
```

Kindly help Priya to correct the above code by rewriting with each corrections underlined as the above code is presently having syntax error.

(f) Explain the use of <IMG> tag with reference to HTML. Name two attributes of it.   2

(g) What will be displayed in jTextArea1 after execution of following loop.   2

```
int Addl = 50, B= 6;
Addl = Addl + B++;
jTextArea1.setText(Integer.toString(Addl) + " " + Integer.toString(B));
```

(h) How is the purpose of HTML different from XML?   1

3 (a) Hari wants to list the names of all the tables in his database namely "Status". What commands should he write at MySQL prompt to get this result?   1

(b) A table Sports1 in a database has 3 columns and 30 rows. Another similar table Sports2 has 3 columns and 50 rows. All the records from Sports2 are added into Sports1 table. What is the degree and cardinality of Sports1 table now?   1

(c) Differentiate between primary key and foreign key with a suitable example.   2

(d) Meena uses an EMP table with following columns: 2

<div align="center">NAME, SAL, ID, DNAME</div>

She needs to display names of employees who have not been assigned any department or have been assigned "Pathology" department. Pathology dept's names end with "Pathology". She wrote the following query:

SELECT NAME, SAL

FROM EMP

WHERE DNAME = NULL AND DNAME = "Pathology%";

But the query is not producing result. Identify the problem.

(e) What will be the output of following queries on the basis of employee table: 2

EMPID	ENAME	SALARY
A1	Bob	NULL
B1	John	4000
B2	Tom	5000

(i)   select avg(salary) from employee;

(ii)   select count(salary) from employee;

(f) Name the package you need to import for performing database connectivity   1

(g) Which command is used to make changes done by a transaction permanent on a database?   1

4 (a) What will be the context of jTextArea1 and jTextField1 after the execution of the following   2
    statements?
    (i)   jTextArea1.setText("Just\tAnother\nDay");
    (ii)   String Subject="Informatics Practices";
            jTextField1.setText((Subject.length()+10)+" ");

(b) Write the contents of jTextField1, jTextField2, jTextField3 and jTextField4 when the   2
    following statements are executed.
    String x;
    String str= "Java";
    x = str.concat("study");
    double a= 7.8765; jTextField1.setText();
    jTextField1.setText(x.length() + "");
    jTextField2.setText(x.toUpperCase());
    jTextField3.setText(x.substring(2,5));
    jTextField4.setText(Math.round(7.8765)+ "");

(c) Rewrite the following program code using an if statement.   2
    String Remarks;
    int Code=Integer.parseInt(jTextField1.getText());
    switch(Code)
    {   case 0 : Remarks="100% Tax Exemption";
                    break;
            case 1 : Remarks="50% Tax Exemption";
                    break;
            case 2 : Remarks="30% Tax Exemption";
                    break;
            default: Remarks="! Invalid Entry";
    }

(d) Observe the following code carefully and find which statement will never get executed in the   1
    code?
    int t=1;   //Statement 1
    do   //Statement 2
    {   //Statement 3
    if (t>13)   //Statement 4
        jTextField1.setText("Something");   //Statement 5
    else   //Statement 6
        jTextField1.setText("Pass");   //Statement 7
    t+=3;   //Statement 8
    }   //Statement 9
    while (t<=15);   //Statement 10

(e) How many times will the following WHILE loop execute?   1
    int y=7, sum=0;

```
while(y<=15)
{
    sum= sum + y;
  y = y + 2;
}
```

(f) Vijay has developed a software for planning personal budget. A screenshot of the same is shown below :

Total Income, Expenses of Bills (Water/Electricity), Groceries, Entertainment, other expenses and whether money is to be sent to Hostel are entered by the user. Sum of Expenses, Grand Total of Expenses and Savings are calculated and displayed by the program.

Write the code to do the following :

  (i)   When 'CALCULATE' button is clicked, Sum of Expenses, Total Expenses and Savings should be calculated and displayed in appropriate text fields. 3
- Sum of Expenses is calculated by adding expenses on Bills (Water/Electricity), Groceries, Entertainment and other expenses.
- Grand Total of Expenses is calculated according to the following criteria :
  If 'Money to be sent to Hostel' checkbox is selected, 3000.00 is to be added to the sum of expenses. If it is not selected, Grand Total of Expenses is the same as sum of expenses.
- Savings = Total Income – Grand Total of Expenses.

  (ii)   When 'CLEAR' button is clicked, all text fields and checkbox should be cleared. 1

  (iii)   When 'CLOSE' button is clicked, the application should close. 1

5 (a) Explain the purpose of DDL and DML commands used in SQL. Also give two examples of 2

each.

(b) Write the output of the following SQL queries: 2

    a)   SELECT ROUND(6.5675, 2);

    b)   SELECT TRUNCATE(5.3456, 1);

    c)   SELECT DAYOFMONTH('2009-08-25');

    d)   SELECT MID('Class 12', 2,3);

(c) Consider the table TEACHER given below. Write commands in SQL for (i) to (iv) and output for (v) to (viii) 6

TEACHER

ID	Name	Department	Hiredate	Category	Gender	Salary
1	Tanya Nanda	Social Studies	1994-03-17	TGT	F	25000
2	Saurabh Sharma	Art	1990-02-12	PRT	M	20000
3	Nandita Arora	English	1980-05-16	PGT	F	30000
4	James Jacob	English	1989-10-16	TGT	M	25000
5	Jaspreet Kaur	Hindi	1990-08-01	PRT	F	22000
6	Disha Sehgal	Math	1980-03-17	PRT	F	21000
7	Siddharth Kapoor	Science	1994-09-02	TGT	M	27000
8	Sonali Mukherjee	Math	1980-11-17	TGT	F	24500

    i.   To display all information about teachers of PGT category.

    ii.   To list the names of female teachers of Hindi department.

    iii.   To list names, departments and date of hiring of all the teachers in ascending order of date of joining

    iv.   To count the number of teachers in English department.

    v.   SELECT MAX(Hiredate) FROM Teacher;

    vi.   SELECT DISTINCT(category) FROM teacher;

    vii.   SELECT COUNT(*) FROM TEACHER WHERE Category = "PGT"

    viii.   SELECT AVG(Salary) FROM TEACHER group by Gender;

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

Field	Type	Constraint
EventId	Varchar(5)	PRIMARY KEY
EventName	Varchar(30)	NOT NULL
Location	Varchar(50)	
ClientID	Integer	
EventDate	Date	

(b) Consider the tables given below :   2

Table : Faculty

TeacherId	Name	Address	State	PhoneNumber
T101	Savita Sharma	A-151, Adarsh Nagar	Delhi	991019564
T102	Deepak Ghai	K-5/52, Vikas Vihar	Mumbai	893466448
T103	MahaLakshmi	D-6	Delhi	981166568
T104	Simi Arora		Mumbai	658777564

Table : Course

CourseId	Subject	TeacherId	Fee
C101	Introductory Mathematics	T101	4500
C103	Physics	T101	5000
C104	Introductory Computer Science	T102	4000
C105	Advance Computer Science	T104	6500

(i) Which column is used to relate the two tables ?

(ii) Is it possible to have a primary key and a foreign key both in one table ? Justify your answer with the help of table given above

(c) With reference to the above given tables, write commands in SQL for (i) and (ii)   6
and output for (iii):

(i) To display CourseId, TeacherId, Name of Teacher, Phone Number of Teachers living in Delhi.

(ii) To display TeacherID, Names of Teachers, Subjects of all teachers with names of Teachers starting with 'S'.

(iii) SELECT CourseId, Subject,TeacherId,Name,PhoneNumber FROM Faculty,Course WHERE Faculty.TeacherId = Course.TeacherId AND Fee>=5000;

7 (a) "In e-Business, customers should shop only when they trust the e-store provider for payment   1
methods"-Justify the statement.

(b) Which of the following statements is NOT true in e-Governance? Rewrite the statement after   2
correcting it.

(i) Online applications and tracking of status of applications should be provided.

(ii) Citizens should not be required to submit documents in physical form.

(iii) Online Forms should be made tricky so that only well-educated users can enter data.

(iv) Government should interact with citizens and enlighten them about different schemes through social media and web based platforms.

(c) Ms. Arora is creating a form for accepting Visa applications. Help her to choose most 2
appropriate controls out of ListBox, ComboBox, TextField, TextArea, RadioButton,
CheckBox, Label and CommandButton for the following entries :

Sl.No	Function	Control
1.	To enter EMAIL ID	
2	To choose GENDER	
3	To enter NATIONALITY from countries given as options.	
4	To enter REMARKS in the form of a paragraph about the purpose of visit.	