

**Series ONS**

**SET-4**

Code No. **90**

Roll No.

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Candidates must write the Code on the title page of the answer-book.

- Please check that this question paper contains **11** printed pages.
- Code number given on the right hand side of the question paper should be written on the title page of the answer-book by the candidate.
- Please check that this question paper contains **7** questions.
- **Please write down the Serial Number of the question before attempting it.**
- 15 minute time has been allotted to read this question paper. The question paper will be distributed at 10.15 a.m. From 10.15 a.m. to 10.30 a.m., the students will read the question paper only and will not write any answer on the answer-book during this period.

## **INFORMATICS PRACTICES**

*Time allowed : 3 hours*

*Maximum Marks : 70*

### **General Instructions :**

- All questions are compulsory.*
- Answer the questions after carefully reading the text.*

1. (a) Vidya College has three departments that are to be connected into a network. Which of the following communication medium (out of the given options), should be used by the college for connecting their departments for very effective High Speed communication ? 2
- Coaxial Cable
  - Optical Fiber
  - Ethernet Cable
- Also name the type of network (out of PAN/LAN/WAN) formed.
- (b) State reason why Star topology requires more cable length than Bus topology. 2
- (c) Seema needs a network device that should regenerate the signal over the same network before the signal becomes too weak or corrupted. 2
- Amit needs a network device to connect two different networks together that work upon different networking models so that the two networks can communicate properly.
- Name the devices that should be used by Seema and Amit.
- (d) How is a domain name related to an IP address ? 2
- (e) How is firewall useful in ensuring network security ? 2
2. (a) Identify the odd one out of the following Java statements. State reason for your choice. 1
- (i) for
  - (ii) do while
  - (iii) switch
  - (iv) while
- (b) Write the purpose of parseInt( ) method. 1
- (c) Identify invalid variable names out of the following. State reason if invalid. 1
- (i) for
  - (ii) - salary
  - (iii) salary12
  - (iv) product
- (d) What is the difference between statements (i) and (ii) ? 1
- (i) `t = 2;`
- (ii) `if (t == 2)`  
`d = 3;`

- (e) Write HTML tags to do the following : 2
- (i) Inserting a horizontal line in a web page.
  - (ii) Inserting a line break
- (f) What does 'XML' stand for ? How is the purpose of HTML different from XML ? 2
- (g) Rewrite the following code using if else if statement : 2

```
switch (depcode)
{
    case 1 :
        allowance = 4000;
        break;
    case 2 :
        allowance = 3200;
        break;
    default :
        allowance = 1000;
}
```

3. (a) What is the meaning of 'Open Source' in the term 'Open Source Database Management System' ? 1
- (b) In a table 'Employee', a column 'Occupation' contains many duplicate values. Which keyword would you use if you wish to list only different values ? 1
- (c) How is ALTER TABLE statement different from UPDATE statement ? 1
- (d) Charvi wants to delete the records where the "FirstName" is "Rama" in the 'Emp' Table. She has entered the following SQL statement. An error is being displayed. Rewrite the correct statement. 1

```
DELETE 'Rama' FirstName FROM Emp;
```

(e) (i) Name 2 Group (Aggregate) functions of SQL. 2

(ii) Consider the table :

**Table : Company**

<b>CompanyCode</b>	<b>Donations</b>
C101	13000
C102	NULL
C104	7000
C105	4000

What output will be displayed by the following SQL statement ?

```
SELECT AVG(Donations) FROM Company;
```

(f) Given below is the 'Emp' table : 2

<b>ENO</b>	<b>NAME</b>
1	Anita Khanna
2	Bishmeet Singh

```
SET AUTOCOMMIT = 0;
```

```
INSERT INTO Emp VALUES (5, 'Farzia');
```

```
COMMIT;
```

```
UPDATE Emp SET NAME = 'Farzziya' WHERE ENO=5;
```

```
SAVEPOINT A;
```

```
INSERT INTO Emp VALUES (6, 'Richard');
```

```
SAVEPOINT B;
```

```
INSERT INTO Emp VALUES (7, 'Rajyalakshmi');
```

```
SAVEPOINT C;
```

```
ROLLBACK TO B;
```

What will be the output of the following SQL query now ?

```
SELECT * FROM Emp;
```

(g) Consider the table below :

2

**Table : Company**

<b>EMPID</b>	<b>DEPARTMENT</b>	<b>SALARY</b>
E101	PERSONNEL	60000
E102	ACCOUNTS	65000
E103	MARKETING	40000
E104	PERSONNEL	62000
E105	PERSONNEL	50000
E106	MARKETING	35000

Identify error(s) in the following SQL statement. Rewrite the correct SQL statement.

```
SELECT Department, Salary  
FROM Company  
GROUP BY Department;
```

4. (a) Identify programming languages out of the following : 1  
HTML, C + +, JAVA, MySQL
- (b) Write 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 : 1

```
int t;  
int x;  
x = 12;  
t = (3*x + +) / 3;  
jTextField1.setText(" " + t);  
jTextField2.setText(" " + x);
```

- (d) Write the output that will be displayed in the textfields by the following Java code : 2

```
String x;

String stream="Commerce";

jTextField1.setText((stream.length()+9)+" ");

x=stream.concat("Humanities");

jTextField2.setText(x);

jTextField3.setText(" "+x.substring(2,5));

jTextField4.setText(stream.toLowerCase());
```

- (e) Write the value that will be stored in variable sum after execution of following code : 2

```
int sum=0,m=4;

for(int i=9;i>=6;i--)

{

    if (i%3==0)

        sum=sum+i;

    else

        sum=sum-i;

}
```

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

```
int a=0;

int b=15;

do ;

    a=a+3;

    b=b-3;

while a<=b;
```

- (g) Ms. Sharma works as a programmer in “ABC Car Rental Company” where she has designed a software to compute charges to be paid by the client. A screenshot of the same is shown below :

ABC CAR RENTALS

NAME

PHONE NUMBER

Deluxe Car  GUIDE REQUIRED

Semi Deluxe Car

Ordinary Car

Car Required for No. of Days

CALCULATE CLEAR CLOSE

Amount

Guide Charges

Total Amount

A client can take any car out of Deluxe/SemiDeluxe/Ordinary for rent.

A client can also opt for services of a guide. Charges vary depending on the type of car opted.

Charges of services of Guide are extra.

Help Ms. Sharma in writing the code to do the following :

- (i) After selecting appropriate Radio Button and checkbox(if required), when 'CALCULATE' button is clicked, Amount, Guide Charges and Total Amount should be calculated and displayed in the respective text fields. 2

Category of Car	Amount (in ₹)
Deluxe Car	1000 per day
Semi Deluxe Car	800 per day
Ordinary Car	700 per day

Amount is obtained by multiplying per day charges of Car with number of days for which the car is taken. 2

If 'Guide Required' checkbox is selected, Guide charges per day are ₹ 500.00.

Guide Charges is calculated as : Car required for No. of days \* 500;

Total Amount = Amount + Guide Charges

- (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) Srishti has created the following table with the name 'Veterinary'. 2

Column Name	Constraint
AnimalId	Primary Key
VaccinationsDate	
AnimalName	Not Null
OwnerName	

One of the rows inserted is as follows :

AnimalId	VaccinationDate	AnimalName	OwnerName
A101	2015-02-12	Sheru	Amit Sharma

- (i) What are the data type of columns AnimalId and VaccinationDate in the table Veterinary ?

(ii) Srishti is now trying to insert the following row :

<b>AnimalId</b>	<b>VaccinationDate</b>	<b>AnimalName</b>	<b>OwnerName</b>
A102	2015-08-09	NULL	Abhimanyu Shah

Will she be able to successfully insert it ? Give reason.

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

2

(i) `SELECT MID('LearningIsFun',2,4);`

(ii) `SELECT ROUND(76.384,2);`

(iii) `SELECT INSTR('INFORMATION FORM','RM');`

(iv) `SELECT DAYOFYEAR ('2015-01-30');`

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

6

**Table : Order**

<b>OrderId</b>	<b>OrderDate</b>	<b>SalesPerson</b>	<b>OrderAmount</b>
O101	2015-09-12	Ravi Kumar	34000
O102	2015-08-15	Rashmi Arora	50000
O103	2015-11-01	Ravi Kumar	55000
O104	2015-12-09	Manjeet Singh	60000
O105	2015-11-10	Rashmi Arora	50000

(i) To display names of SalesPersons (without duplicates).

(ii) To list OrderId and respective OrderAmount in descending order of orderAmount.

(iii) To count the number of orders booked by SalesPersons with names starting with 'R'.

(iv) To list Order ids, order dates and order amounts that were booked after 1<sup>st</sup> September 2015.

(v) `SELECT OrderId, OrderAmount FROM Order where OrderAmount between 50000 and 60000;`

(vi) `SELECT concat (OrderId, SalesPerson), length(SalesPerson) FROM Order;`

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

Field	Type	Constraint
Songid	Integer	Primary key
Title	Varchar (50)	
Duration	Integer	
ReleaseDate	Date	

- (b) Consider the tables given below : 2

**Table : Party**

PartyId	Description	CostPerPerson
P101	Birthday	400
P102	Wedding	700
P103	Farewell	350
P104	Engagement	450

**Table : Client**

ClientId	ClientName	Address	Phone	NoOfGuests	PartyId
C101	A.K. Antony	A-151, Adarsh Nagar	99101956	80	P101
C102	Fauzia Aria	K-5/52, Vikas Vihar	893466448	500	P102
C103	Rashi Khanna	D-6, Hakikat Nagar	981166568	50	P101
C104	S.K. Chandra	76-A/2, MG Colony, Adarsh Avenue.	65877756	100	P104

- (i) Name the Primary keys in both the tables.
- (ii) 'P101' data is present twice in column 'PartyId' in 'Client' table - Is there any discrepancy? Give reason for your answer.
- (c) With reference to the above given tables (in Q6 b), Write commands in SQL for (i) and (ii) and output for (iii) given below : 6
- (i) To display Client names of clients, their phone numbers, PartyId and party description who will have number of guests more than 50 for their parties.

- (ii) To display Client Ids, their addresses, number of guests of those clients who have 'Adarsh' anywhere in their addresses.

ClientId	ClientName	Address	Phone	NoOfGuests	PartyId
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- (iii) `SELECT ClientId, ClientName, NoOfGuests, description, Costperperson, FROM Client, Party WHERE Client.PartyId=Party.PartyId AND NoOfGuests BETWEEN 50 AND 100;`

7. (a) How is an e-commerce business more cost effective than traditional business? Write two points. 2
- (b) How is e-learning beneficial for old people? Write one point. 1
- (c) Ms. Ariya is creating a form for PAN CARD application. Help her to choose most appropriate controls from ListBox, ComboBox, TextField, TextArea, RadioButton, CheckBox, Label and Command Button for the following entries. 2

S.No	Function
1	To enter NAME
2	To enter MOBILE NUMBER
3	To allow user to choose one CATEGORY out of the categories : Company, Trust, Individual.
4	To enter NATURE OF BUSINESS/PROFESSION in the form of a paragraph