

# HALF YEARLY EXAMINATION, 2017-18

## INFORMATICS PRACTICES

Time - 3 hrs.

Class - XII

M.M. – 70

Name of the student \_\_\_\_\_ Section \_\_\_\_\_ Date-23.09.2017 (Saturday)

### Instructions:

- There are total 7 questions in this question paper.
- All questions are compulsory.
- Answers of the same section should be written together.

### Q.1 Answer the following questions:

- A Write one advantage each of star and bus topology used in networking. (2)
- B What do you understand by firewall? (2)
- C A host in a network can be referred using three types of addresses namely MAC address, IP address and the DNS address. Explain the difference among the three. (2)
- D Define open source software. Give atleast two examples of OSS. Justify that free software is not open source software. (2)
- E What is the difference between phonetic text entry and keymap based text entry? (2)

### Q.2 Answer the following questions:

- A List two purposes of '+' operator in java. (1)
- B What is wrong with the following while statement? (1)
- ```
while ((ctr<5) && (ctr>30))
```
- The logical operator && cannot be used in a test condition.
  - The while loop is an exit controlled loop.
  - The test condition is always false.
  - The test condition is always true.
- C The following code has some error(s). Rewrite the correct code. Underline all the corrections made. (2)
- ```
int p=3;sum=0;
{
    sum=p;
    p+=4;
}
while(p=<12)
jTextField1(Integer.toString(sum));
```
- D Give java code to convert a number into string with the help of a + operator. (2)
- E Differentiate between primitive and non-primitive data types. (2)
- F Differentiate between constructor and method. (2)

**Q.3 Answer the following questions:**

A You need to display the names of those employee who have the letter “A” as the second character in their names. What will be the query for that? (1)

B Explain Foreign Key constraint. (1)

C Mrs. Kumar is using table STUDENTS with the following columns: (1)

RNO, ADMNO, NAME, AGGREGATE

She wants to display all information of students in descending order of name within ascending order of aggregate. She wrote the following SQL query and she did not get the desired output.

```
SELECT * FROM STUDENTS
```

```
ORDER BY NAME, AGGREGATE DESC;
```

Rewrite the above query to get the desired output.

D Mr. Ram is using a table with following columns Name, Class, StreamID, StreamName. He needs to display name of students who have not been assigned any stream or have been assigned StreamName that ends with “Computers”. He wrote the following command, which did not give the desired result. (1)

```
SELECT Name, Class FROM STUDENTS
```

```
WHERE StreamName=NULL OR StreamName="%"Computers";
```

Help Mr. Ram to run the query by removing the errors and write correct query.

E Give characteristics of primary key. (2)

F Observe the given statements carefully: (2)

i. `SELECT * FROM CLUB WHERE salary BETWEEN 30000 AND 40000;`

ii. `SELECT * FROM CLUB WHERE salary IN (30000, 40000);`

iii. `SELECT * FROM CLUB WHERE salary >= 30000 AND salary <= 40000;`

iv. `SELECT * FROM CLUB WHERE salary = 30000 OR salary = 40000;`

Categorise the equivalent SQL statements given above in two groups (Which give the same output).

G What is the difference between “%” and “\_” wild card characters with reference to LIKE clause of MySQL? (2)

**Q.4 Answer the following questions:**

A Give the output of the following java code: (1)

```
StringBuffer object = new StringBuffer("Java");
```

```
if((object.length()>3) && (object.append(" is easy to learn.").equals("Java")));
```

```
System.out.println(object);
```

B Explain different access specifiers offered by java. (2)

- C Give java code that counts the occurrence of a particular character in a string. (2)
- D Explain Hierarchical inheritance with an example. (2)
- E Explain abstract classes. (2)
- F Read the following case study and answer the questions that follows:

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:

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

A client can also opt for services of a guide. Charges of services of Guide are extra.

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

- i. When ‘CLEAR’ button is clicked, all text fields and checkbox should be cleared. (1)
- ii. When ‘CLOSE’ button is clicked, the application should close. (1)
- iii. 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. (4)

Category of Car	Amount(in Rs.)
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. If ‘Guide Required’ checkbox is selected, Guide charges per day are Rs.500.00.

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

Total Amount = Amount + Guide Charges

**Q.5 Give java code for the following.**

A To input any alphabet and print the next five alphabets of the English alphabet series. (2)

B To print the series: (2)

2, -4, 6, -8 ..... upto n terms

C Define a class Bowler with the following specifications: (2)

Data Members:

BName, Overs, Runs, EconomyRate.

Member Methods:

getData() : To accept name, overs bowled and runs given.

calEconomyRate(): To calculate EconomyRate i.e. runs ÷ overs.

displayData(): To display the values of all the data members.

D Give java code for the following based on dept table having the fields as deptno, dname and loc.

i. To insert a record in dept table. (2)

ii. To display all the records of dept table. (2)

**Q.6 Answer the following:**

A Consider the following table “PROJECTS”. Write commands for SQL.

**Table: PROJECTS**

<b>Id</b>	<b>ProjName</b>	<b>ProjSize</b>	<b>StartDate</b>	<b>EndDate</b>	<b>Cost</b>
1	Payroll-MTNL	Medium	2006-03-17	2006-09-16	60000
2	Payroll-ITC	Large	2008-02-12	2008-01-11	500000
3	IDMgmt-LITL	Large	2008-06-13	2009-05-21	300000
4	Recruit-LITL	Medium	2008-03-18	2008-06-01	50000
5	IDMgmt-MTC	Small	2007-01-15	2007-01-29	20000
6	Recruit-ITC	Medium	2007-03-01	2007-06-28	50000

i. To display all information about projects of Medium ProjSize. (1)

ii. To list ID, ProjName, ProjSize and Cost of all the projects in descending order of StartDate. (1)

iii. To display ProjName and cost of projects that have cost in the range of 20000 to 50000. (1)

iv. Increase the cost of all projects in the given table by 10%. (1)

B What happens when a “ROLLBACK” command is issued in a transaction process? (2)

C A table named 'LIBRARY' has the following contents:

**Table : LIBRARY**

Scode	BookName	Pages	Price
F112	Computer	250	200
F231	HomeScience	300	250
F117	English	200	130
F080	Mathematics	400	260

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

```
SET AUTOCOMMIT = 0;
INSERT INTO LIBRARY VALUES ('F114', 'Physics', 200, 300);
ROLLBACK;
SAVEPOINT S1;
SELECT * FROM LIBRARY;
INSERT INTO LIBRARY VALUES ('F032', 'Chemistry', 320, 250);
SAVEPOINT S2;
INSERT INTO LIBRARY VALUES ('F126', 'History', 280, 300);
ROLLBACK TO S2;
SELECT * FROM LIBRARY;
```

..... (i)

.....(ii)

**Q.7 Answer the following:**

A Give java code to clear a checkbox. (1)

B Give java code to display the following output: (2)

0
1 0 1
2 1 0 1 2
3 2 1 0 1 2 3

C Choose appropriate swing control for the following: (2)

- i. Select Gender.
- ii. Display address.
- iii. Select department from a list.
- iv. Choose hobby of employee.

