

Master Card

Informatics Practices

Class - XII

Business

Computing

Main Concepts

1. Types of Software

Free Software, Freeware, Open Source Software, Shareware, Proprietary Software

2. Terminology

OSS, FLOSS, GNU, FSF, OSI, W3C, GPL

3. Open Source/ Free Software

Linux, Mozilla, Apache Server, MySQL, Open Office, PHP, Tomcat

4. Information System & its structure

- Definition
- Types of Information System
- Front end & back end tool

5. Advanced Program Development Methodology

- SDLC
- DDLC, Data Dictionary & Metadata
- E-R Modeling

6. Advanced Database Concepts

- a. Data Warehousing
- b. Data Mining
- c. Object Modeling technique and UML

Questions

1. Types of Software

- Differentiate between the following
 - Freeware & free software
 - Free software & OSS

2. Terminology

- Expand the following terms
PHP , GNU , OSS , W3C

3. Open Source/Free Software

- Give any two uses of the following
 - Mozilla firefox
 - PHP

- Apache server
- Linux

4. Information System & its structure

- Write two entities, tables and usage of
 - Financial Accounting System
 - Inventory Control System
 - Banking System
- What do you mean by front end and back end tool? Give two examples of each.

5. Advanced Program Development Methodology

- Expand the term SDLC. Name some essential components of SDLC.
- What is feasibility study with reference to SDLC? Explain.
- How is post implementation review important during SDLC?
- What do you mean by the term Metadata? How is metadata associated with Data Dictionary?
- Identify the type of relationships represented in the following statement and draw an E-R diagram to show that -
“ Each student can study more than one subject while each teacher can teach only one subject.”

6. Advanced Database Concepts

- What is Data Warehouse? Give one application area of Data warehouse.
- What is Data mining? Give one application of Data Mining.
- What is Object Modelling? How is it different from E-R Modelling?
- Expand the term UML and explain its usage?

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VB Revision Tour – I & II

Procedures, Functions

& Modules

Main Concepts

VB Revision Tour - I

- Some common VB controls(Their default Names, common properties, methods & events)
- Defining variables (Fixed length string & Variable length string, Implicit & Explicit declaration of variables, Variable Scope, Lifetime & Static Variables.)

VB Revision Tour - II

- Control Flow/ structures in Programming languages
- Implementation of different control constructs in VB.

Procedures, functions and Modules

- Parameters & arguments, Passing parameters
- Sub Procedures and Function Procedures
- Variable Scope and Modules

Questions

VB Revision Tour - I

- What are the different numeric data available in VB? Explain the usage of any two data types used in VB to store numbers with decimals.
- Write default names of following VB controls -
a) Form b) Label c) Text Box d) Command Button
e) Option button f) Check Box
g) Frame h) List Box i) Combo Box
- Differentiate between the load and Show methods of a form object.
- Differentiate between Visible and Enabled property of a text box control.

- What do you understand by variable scope and lifetime?
- Can you increase the life time of local variables? If yes, how?

VB Revision Tour – II

- Which three program constructs are supported by a programming language? Explain.
- Which statement can be used in place of Select Case statement? In the Select Case statement, what happens, if every case fails and there is no Case Else option?
- Differentiate between pre-tested and post –tested loop .Give two example of each.

Procedures, functions and Modules

- How actual parameters are different from formal parameters?
- Write a VB procedure to take a number as argument and display all even and odd numbers up to that number and find their respective sums.
- VB function that takes two numbers as argument and returns GCD of the two given numbers.
- What type of code modules can be created in VB? Give their file extensions also.

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Library Functions

VB Interface Styles

Database and ADO,OLEDB &

ODBC

Main Concepts

Library Functions

- Benefits & Use
- Numeric Functions : Val (), int()
- String Functions : Str(), Right(), Left(), Mid(), Instr(), Len(), Trim(), Ucase()
- Miscellaneous : Isnumeric(), Isdate()

VB Interface Styles

- Interface (Definition)
- SDI & MDI

Database and ADO, OLEDB & ODBC

- Database concepts : Database, Table, Recordset, Bound control
- OLEDB & ODBC
- ADO & ADOX

Questions

Library Functions

- **Give the output of the following :**
 - a) $(3*4 > 3+5)$ AND $(2^3 + 7/2)$
 - b) Print Instr(Ltrim("INTERNATIONAL"), "NA")
Print Instr(Ltrim("INTERNATIONAL"), "na")
Print Ucase(Mid("Advertisement", 7, 3))
Print Mid(Ltrim("Computer Science"), 1, 4) + "One"
Print Instr("Computers", "ut")

- Write VB code to ensure that user can enter only alphabets in textbox txtname.
- Write VB code to ensure that user can enter only numeric values in textbox txtQuantity.

VB Interface Styles

- What is an interface? Name two interface styles available in VB.
- How many MDI forms allowed in a VB Application? Which property makes a form an MDI child form?
- Differentiate between SDI and MDI with one example of application of each type.

Database and ADO, OLEDB & ODBC

- What do you mean by Data Aware Control? Name any two properties that convert a normal control into data aware control.
- Differentiate between
 - a) ODBC and OLEDB
 - b) ADO & ADOX

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Review of RDBMS from

Class – XII

Getting started with PL/SQL

Main Concepts

Review of RDBMS from Class - XI

- TERMINOLOGY
- SQL SELECT STATEMENT
- SQL MULTIPLE ROW FUNCTION
- TABLE CREATION
- TCL STATEMENT
(Commit, Rollback, Savepoint)
- DCL STATEMENT
(GRANT, REVOKE)
- SUBQUERIES
- VIEWS

Getting started with PL/SQL

- PL/SQL FUNDAMENTAL
(Variables & Variable declaration, Datatypes & Operators)
- CONDITIONAL CONTROL STATEMENT
- ITERATIVE CONTROL STRUCTURES

Questions

Review of RDBMS from Class - XI

- Define the following :
(i) Primary Key (ii) Candidate Key (iii) Alternate key (iv) Foreign Key
- Answer the questions based on the table **Flight** given below:

Column Name	Data Type	Size	Description	Constraint
Flight_No	NUMBER	4	Flight number	Primary Key
Origin	VARCHAR2	30	Place of Origin of flight	NOL NULL
Destination	VARCHAR2	30	Destination of the flight	NOT NULL
Seats	NUMBER	3	Number of seats available	
Flt_Date	DATE		Date of Flight	
Rate	NUMBER	7,2	Rate of a ticket on the flight	

- Write SQL statement to create the above table with constraints.

- Write SQL statement to display origin, minimum and maximum rate of flights with same origin.
- Display the details of all the flights having the No. of Seats exactly same as in the Flight No. 1024.
- Create a View with fields Flight_no, origin, Seats, date, Rate of all the flights with destination 'DELHI'.
- Write SQL statement to display Flight_no, Origin and rate of all the flight in descending order of rate.
- Differentiate between COMMIT and ROLLBACK Commands.
- What is the use of SAVEPOINT.
- Differentiate between GRANT and REVOKE Commands.
- How is a view different from a table.

Getting started with PL/SQL

- Write the difference between SQL and PL/SQL.
- Explain the difference between %TYPE and %ROWTYPE attributes in variable declaration in PL/SQL block with the help of an example.
- Find the O/P in the given PL/SQL block.

Declare

```
Cnt Number;
```

```
Num1 Number;
```

Begin

```
Cnt :=10;
```

```
For num1 IN 5..8
```

```
Loop
```

```
    If Mod (num1,2)=0 then
```

```
        Cnt :=cnt – num1;
```

```
    Else
```

```
        Cnt := cnt + 2 * num1;
```

```
    End if;
```

```
        Dbms_output.put_line(cnt);
```

```
    End Loop;
```

End;

- Rewrite the following code using while loop without affecting the output :
 For i in reverse 1..5 loop
 Dbms_output.put_line(i);
 End loop;

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Database interaction in

PL/SQL

Creating Procedures

Creating Triggers

Main Concepts

Database interaction in PL/SQL

- SELECT INTO STATEMENT
- USE OF UPDATE, DELETE & INSERT STATEMENT IN PL/SQL PROGRAM
- CURSORS IN PL/SQL
 - Definition
 - Type
 - Attributes
 - Cursor For Loop

Creating Procedures

- Creating stored procedure
- Creating Function
- Parameters modes (IN, OUT, INOUT)

Creating Triggers

- Creating Triggers
 - Types of Trigger
 - Trigger Vs Stored Procedure
 - Trigger Vs Constraint
-

Questions

Database interaction in PL/SQL

- Write a PL/SQL block to accept department number from user and display the department name and its location.
- Write a PL/SQL block to accept employee number from user and increment the salary of that employee by 10%.

- What is a cursor? Write statements associated with implementation of Cursor.
- Differentiate between Explicit and Implicit Cursor of PL/SQL.
- Write a PL/SQL Script to display the flight_no and rate of all the flights having rate of ticket more than Rs. 1000. (**Consider the structure of table flight given in master card of review of RDBMS**)
- Write cursor For loop to display empno, ename and job of all the employees earning salary more than 4000 from table EMP.

Creating Procedures

- Write a PL/SQL procedure Multi_Table that takes two numbers as parameter and displays the multiplication table of the first parameter till the second parameter.
- Write a PL/SQL function that takes a number as parameter and returns the sum of all natural numbers less than the parameter.
- Compare IN, OUT and INOUT Parameters modes of PL/SQL.

Creating Triggers

- Differentiate between Row level and Statement level triggers in PL/SQL.
- Differentiate between Before and After triggers in PL/SQL.
- Differentiate between Trigger and Stored Procedure.
- Differentiate between Trigger and Constraint.
- Create a row level trigger to display the Empno, Ename and job of all the employees whose record is being deleted from emp table.
- Create a trigger based on **table emp** of scott to change the commission amount (**field : comm**) to 500 every time commission amount entered by user exceeds 500. An appropriate message should also be displayed.