माध्यमिक शिक्षा मंडल म.प्र. भोपाल

आदर्श प्रश्न पत्र
**Model Question Paper**

इन्फार्मेटिक प्रेक्टिस
**(Informatics Practice)**

कक्षा – 12वीं
**(Hindi & English Versions)**

**Time - 3 hours**                                                    **M. M. 75**

निर्देश :–

1.   सभी प्रश्न अनिवार्य हैं। प्रश्न 5 से 18 तक प्रत्येक में आंतरिक विकल्प दिये गये हैं।
2.   प्रश्न क्रमांक 1 से 4 तक प्रत्येक प्रश्न पर पांच और प्रत्येक उप प्रश्न पर एक अंक निर्धारित है।
3.   प्रश्न क्रमांक 5 से 8 तक प्रत्येक प्रश्न पर 02 अंक निर्धारित हैं तथा प्रत्येक का उत्तर लगभग 30 शब्दों में देना है।
4.   प्रश्न क्रमांक 9 से 13 तक प्रत्येक प्रश्न पर 04 अंक निर्धारित हैं तथा प्रत्येक का उत्तर लगभग 75 शब्दों में देना है।
5.   प्रश्न क्रमांक 14 से 16 तक प्रत्येक प्रश्न पर 05 अंक निर्धारित हैं तथा प्रत्येक का उत्तर लगभग 120 शब्दों में देना है।
6.   प्रश्न क्रमांक 17 से 18 तक प्रत्येक प्रश्न पर 06 अंक निर्धारित हैं तथा प्रत्येक का उत्तर लगभग 150 शब्दों में देना है।

**Instructions :**
1.   All questions are compulsory. Internal options is given in each question from 5 to 18.
2.   Each question from 1 to 4 carries 5 marks and each subquestion carry 1 mark.
3.   Each question from 5 to 8 carries two marks. Word limit for each answer is 30 words.
4.   Each question from 9 to 13 carries Four marks. Word limit for each answer is 75 words.
5.   Each question from 14 to 16 carries Five marks. Word limit for each answer is 120 words.
6.   Each question from 17 to 18 carries Six marks. Word limit for each answer is 150 words.

**प्र.1** प्रत्येक प्रश्न में दिये गये विकल्पों में से सही विकल्प चुनकर लिखिये– 05

अ. UML है एक –

    अ. प्रोग्रामिंग भाषा (लैंग्वेज)

    ब. ग्राफिकल भाषा (लैंग्वेज)

    स. डाटाबेस भाषा (लैंग्वेज)

    द. कम्यूनिकेशन भाषा (लैंग्वेज)

ब. DAO है –

    अ. 1 टॉयर

    ब. 2 टॉयर

    स. n टॉयर

    द. 3 टॉयर

स. .......... ऑब्जेक्ट का उपयोग डेटाबेस टेबिल के रिकॉर्डो के सेट को रखने के लिये होता है –

    अ. कमाण्ड ऑब्जेक्ट

    ब. ADO रिकार्ड सेट ऑब्जेक्ट

    स. कनेक्शन ऑब्जेक्ट

    द. रिफरेन्स ऑब्जेक्ट

द. ............ में डेटा कॉलम्स के आधार पर विभक्त होकर अनेक सिस्टम पर फैला होता है –

    अ. रिप्लीकेटेड डेटा

    ब. हॉरिजेन्टली फ्रग्मेन्टेड डेटा

    स. वर्टीकली फ्रेग्मेन्टेड डेटा

    द. रिआर्गेनाइज्ड डेटा

इ.   PL / SQL ब्लॉक का अनिवार्य सेक्शन है –

अ.   एक्सीक्यूशन          ब.   डिक्लेरेशन

स.   एक्सेप्शन            द.   हेडर

**Q.1   Choose Correct Answer -**

1.   UML is a _____
     a.   Programming language.
     b.   Graphical language
     c.   Database language
     d.   Communication language

2.   DAO is ____
     a.   1 - Tier
     b.   2 - Tier
     c.   n - Tier
     d.   3 – Tier

3.   The object is used to hold a set of records from a database table is __
     a.   Command object
     b.   Adorecordset object
     c.   Connection object
     d.   Reference object

4.   ____ data is data that has been split across multiple systems.
     a.   Replicated data
     b.   Horizontaly fragmented data
     c.   Vertically fragmented data
     d.   Reorganized data

5.   Which PL / SQL section is mandatory -
     a.   Execcution        b.   Declaration
     c.   Exception         d.   Header section

**प्र.2  रिक्त स्थानों की पूर्ति कीजिये –**                                      05

1.   रिलेशनल मॉडल में .................. कॉन्सेप्ट का उपयोग होता है।

2.   फार्म मॉड्यूल का एक्सटेंशन ....... है।

3.   उपयोगकर्ता से इनपुट प्राप्त करने के लिये ........ फंक्शन का उपयोग
     होता है।

4.   ........ निर्देश एक टेबिल के किसी एक रिकार्ड को परिवर्तित करने की
     अनुमति देता है।

5.   ............ ऑपरेटर का उपयोग गणितीय गणना करने के लिये किया
     जाता है।


**Q.2  Fill in the blanks –**

1.   _____ concept is used in relational model.

2.   The extension of form module is _____.

3.   _____ function is used ot take input from the user.

4.   _____ statement allows you to change a single record in a table.

5.   _____ operators are used for mathematical computation.


**प्र.3  दिये गये प्रश्नों के उत्तर एक वाक्य में लिखिये –**            05

1.   SQLका पूर्ण रूप क्या है ?

2.   कौन सी प्रापर्टी डाटाबेस के संपूर्ण पथ को दर्शाती है ?

3.   फाईल मेनू के कौन से ऑप्शन द्वारा डाटा प्रोजेक्ट का निर्माण किया
     जाता है ?

4.   उस ऑपरेटर का नाम लिखिये जिसका उपयोग कई स्ट्रिंगों को जोड़
     कर एक स्ट्रिंग बनाने के लिये किया जाता है ?

5.   डाटाबेस की सबसे छोटी इकाई क्या है ?


**Q.3  Write the answer of each in one sentence –**

1.   What is the full form of SQL.

2.   Which property specifies complete path of data base.

3.  Data project is created from which motion in file menu.

4.  Write the name of the operator which is used ot make one string by adding many string.

5.  Which is the smallest unit of database.

प्र.4    सही जोड़ियाँ बनाईये –                                          05

कॉलम 1                                कॉलम 2

1.  वीक एन्टिटी              1.  NWIND

2.  प्रोवाइडर               2.  TCP / IP

3.  डाटाबेस               3.  सिंगल टेबिल

4.  थ्री वे हैंड शेक          4.  ओनर

5.  सेल्फ ज्वाइन           5.  MS DAORA


**Match the following –**

**Column 1**                          **Column 2**

1.  Weak entity            1.  NWIND

2.  Provider              2.  TCP / IP

3.  Database             3.  Single Table

4.  Three Way Handshake   4.  Owner

5.  Self Join             5.  MS DAORA


प्र.5    सिंपल एवं कंपोसिट एट्रीब्यूट में अंतर बताईये ?                    02

अथवा

फ्रंट एंड एवं बैक एंड में अंतर लिखिये ?

Write the difference between simple and composite attribute.

**OR**

Write the difference between front end and Back end.


प्र.6    सबरूटीन स्कोप का वर्णन कीजिये ?                              02

अथवा

VB में किसी भी अस्थिरांक (Variable) के नामकरण करने के नियम लिखिये ?

Describe subroutine scope.

**OR**

Write the rules of naming any variable in VB.

प्र.7 डाटाबेस ट्रांजेक्शन की कोई दो प्रापर्टीयों के बारे में वर्णन कीजिये ? 0 2

**अथवा**

Join के किन्हीं दो प्रकारों का वर्णन कीजिये ?

Describe any two properties of data base transaction.

**OR**

Describe any two types of Join.

प्र.8 VARCHAR 2 एवं CHAR में अंतर लिखिये ? 0 2

**अथवा**

SQL एवं PL / SQL में अंतर लिखिये ?

Write the difference between VARCHAR 2 and CHAR.

**OR**

Write the difference between SQL and PL / SQL.

प्र.9 मेपिंग (Maping) की परिभाषा लिखिये एवं मेपिंग के समस्त प्रकारों का वर्णन कीजिये ? 0 4

**अथवा**

इन्वेन्टरी कंट्रोल सिस्टम का वर्णन उदाहरण सहित कीजिये ?

Define maping and explain all types of maping.

**OR**

Describe inventory control system with example.

प्र1 0 MDI एवं SDI का वर्णन कीजिये ? 0 4

**अथवा**

ODBC एवं OLEDB को समझाईये ?

Describe MDI and SDI.

OR

Explain ODBC and OLEDB.

प्र11  IN, OUT तथा INOUT पैरामीटरों की तुलना कीजिये ?          04

**अथवा**

Stored प्रोसीजर एवं फंक्शन में अंतर स्पष्ट कीजिये ?

Compare IN, OUT and INOUT Parametre.

**OR**

Differentiate between stored procedure and function.


प्र12  PL SQL के CASE स्टेटमेंट का सिन्टेक्स लिखिये ?          04

**अथवा**

GO TO स्टेटमेंट एवं NULL स्टेटमेंट का उपयोग लिखिये ?

Write the syntax of CASE statement of PL-SQL.

**OR**

Write the use of GOTO statement and NULL statement.


प्र13  COMMIT एवं ROLLBACK का वर्णन कीजिये ?          04

**अथवा**

निम्नलिखित फंक्शन का सिन्टेक्स एवं उपयोग लिखिये –

TO-NUMBER,          TO-CHAR

Describe COMMIT and ROLLBACK.

**OR**

Write the syntax and use of following function –

TO-NUMBER,          TO-CHAR


प्र14  डाटा डिक्शनरी तथा डाटा माइनिंग क्या है ?          05

**अथवा**

S.D.L.C. के विभिन्न चरणों को समझाईये ?

What is data dictionary and data mining.

**OR**

Describe the various steps of S.D.L.C.

प्र15 स्टेन्डर्ड मोड्यूल एवं क्लास मोड्यूल में अंतर लिखिये ?          05

**अथवा**

By VAL एवं By REF में अंतर स्पष्ट कीजिये ?

Write the difference between standard module and class module.

OR

Write the difference between By VAL and By REF.


प्र16 VB में IF-THEN निर्देश को सिन्टेक्स एवं उदाहरण सहित समझाईये ?  05

**अथवा**

VB में FOR-NEXT लूप को सिन्टेक्स एवं उदाहरण सहित समझाईये ?

Explain IF-THEN statement with syntax and example in VB.

**OR**

Explain FOR-NEXT loop with Syntax and example in VB.


प्र17 निम्नलिखित फंक्शन को सिन्टेक्स सहित समझाईये –          06

1.    TRIM ( )
2.    MID ( )
3.    Now Property Function

**अथवा**

एरर के विभिन्न प्रकारों का वर्णन कीजिये ?
Explain the following function with syntax –
1.    TRIM ( )
2.    MID ( )
3.    Now Property Function
    **OR**
Describe different types of error.


प्र18 ट्रिगर के समस्त प्रकारों को समझाईये ?          06
    **अथवा**
Explicit कर्सर के विभिन्न एट्रीब्यूटों को समझाईये ?
Describe all types of Trigger.
    **OR**
Describe different attributes of Explicit cursor.

आदर्श उत्तर
**(Model Answer)**

इन्फार्मेटिक प्रेक्टिस
**(Informatics Practice)**

वस्तुनिष्ठ प्रश्न
**Objective Type Questions**

A.1                                                                                    05

    a.    (ii)    Graphical language

    b.    (i)    1-Tier

    c.    (ii)    ADO Recordset Object

    d.    (iii)    Vertically fragmented data

    e.    (i)    Execution

A.2                                                                                    05

    a.    Table

    b.    . FRM

    c.    INPUT BOX ( )

    d.    Update

    e.    Arithmetic

A.3                                                                                    05

    a.    Structured query language

    b.    Database name

    c.    Add project

    d.    Concatanate

    e.    Field

A.4                                                                                    05

    a.    OWNER

    b.    MSDAORA

    c.    NWIND

d. TCP / IP

e. Single Table

**A.5 Simple Attribute –** **01**

When an attribute has not possible sub attributes it is called simple attribute. It is represented by General attribute symbol.

**Composite attribute –** **01**

When on attributes has possible sub attribute it is called composite attributes it is represented by many ovals are connected to one oval.

**OR**

**Front –end :** **01**

1. The front-end is that part of system that intrects directly with uses.
2. It is easy to used because it is graphical.

**Back-End :** **01**

1. It comprises the component that process output from front-end.
2. It is difficult to use.

A.6 02

Subroutine scope represents where in your program the sub routine canbe called from with private and public keyword it can be difined. Private scope subroutine can be called from source file public can be called from any where in our program.

**OR**

**The following are the rules of naming variable -** **02**

1. It must be less than 255 character.
2. No spacing is allowed.
3. It must not begin with a number.
4. Period is not permitted.

A.7  A single logical operation on the database is called a transaction.

**The two properties are –**

1. **Atomicity** – In this eather all data modification are performed or none of them.                                                                                01

2. **Consistency** – After completed the Transaction must leave all data is consistant state.                                                                      01

<div align="center">**OR**</div>

Join can be categorized on the basis of their result in the following manners: 02

1. **Equi Join** – An equi join is a join with join condition containing equality operator.

2. **Self Join** – A self join is a join of a table to it self.

A.8
**CHAR :**
This data type is used to store fixed length character data. it takes optional parametre.                                                                             01

**VARCHAR -2 :**
This data type is used to store visible length character data is takes requested parametre.                                                                         01

<div align="center">**OR**</div>

SQL executes one statement at a time. PL / SQL executes a block of code SQL tells the database what to do PL / SQL tells. How to do the procedure SQL is used to code queries. PL / SQL is used to code program block.         02

A.9  **Mapping :** It express the number of entity of one entity set to which another entity can be associated via a relationship.                    02

1.  **One-to-one :** An entity is A is associated with at most one entity is B.

2.  **One – to – many :** An entity in A associated with any number in B. But from B at most one in B.

3. **Many – to – one :** From A to B at most one. But from B to A any number.

4. **Many - to – many :** Entities is A and B are associated with any number from each other. 02

<div align="center">**OR**</div>

**Inventory control system :** 02

Inventory is a list of goods and materials held available is stock by a business it handles all function related to the tracking and management of material.

It is to determine and maintain an optimum lavel of investment is the inventory example format.

Name of Item        :        Book                                        02

Quantity - In        :        150

Quantity – Out      :        50

Date                  :        15/05/2013

| Name of Item | Quantity In | Quantity Out | Date |
|---|---|---|---|
| Book | 150 | 50 | 15/05/2013 |

**A.10  SDI :** 02

It is used when you need. Only one main window to present the applications view to the uses in SDI all the windows can be moved any where on the screen it acts as a child form of MDI Form.

**MDI :** 02

A MDI form acts as a containes of regular forms / windows which are child form / windows of the MDI. When ever MDI form closes all its child forms close with it.

Example of SDI is Notepad

Example of MDI is Word

<div align="center">**OR**</div>

**ODBC :**                                                                      **02**

        ODBC is open data base connectivity which is a connection method to data source and other thing. it require that you set up a  data sources or what called a DSN using on SQL driver most database systems support ODBC. It is used to access SQL Data (Relational Data).

**OLEDB :**                                                                      **02**

        OLEDB is the successor of ODBC it is a set of software components that allow a front end to connect with a back end as oracle server OLEDB does not require that you set up a DSN OLEDB is used to access. Relational and Non relational data base is com environment.

A.11                                                                      04

**IN –**

1.    It is default.

2.    It passes values to a subprogram.

3.    Formal parameter acts like a constant OUT – I must be specified.

**OUT –**

1.    Must be specified.

2.    Return values to the caller.

3.    Formal parameter acts like an 'uninitialized variable'.

**IN-OUT –**

1.    Must be specified.

2.    passes initial values to a subprogram returns updated values to the caller.

3.    Formal parameter acts like an initialized variable.

<div align="center">**OR**</div>

                                                02

1.    Functions are normally used for computations where.

2. Function must return a value.

3. Function are not precompited.

4. Function returns type could be scalar or table.

**Stored Procedure -**                                                02

1. Stored procedure are normally used for executing business logic.

2. Procedure does not need to return value.

3. Procedure is pre compited.

4. Stored procedure return always enteger value by default zero.

**A.12  Case Statement -**                                            04

The case statement selects one sequence of statements to execute it uses a selector rather than multiple Boolean expressions.

**Syntax :**

CASE Selector

WHEN expressional1 THEN Sequence_Of_Statemnet1;

When expressional2 THEN Sequence_Of_Statemnet2;

…

WHEN expressionalN THEN Sequence_Of_StatemnetN;

[Else sequence_of_statementN + 1;]

END CASE;

<div align="center">**OR**</div>

**GOTO Statement -**                                                  02

The GOTO statement lets you branch to a label without any condition the label, an undeclared identifier enclosed by double angle bracket, must precede an executable statement or PL / SQL block. The GOTO statement causes the code to branch to the label after GOTO statement.

**NULL Statement :**                                                    **02**

  Most commonly statement are written to do some thing in program but in some cases you want to tell PL / SQL to do nothing for this NULL statement are used. They just does nothing except pass. Control to next executable statement.

- they are used for
- improving the redability of program
- nullifying the effect of araised exception
- supporting top-down design of modules.

A.13 When you make any change in database in current transaction commit is used to make it permanent is save the data that has been changed permanently until you commit your change other user cannot see them if you do not commit in crashes of program data will be restored in previous condition.    **02**

**ROLL BACK :**

  It is known as the undo. If you want to restore your data is to its previous condition than you can write ROLL BACK after the DML queries. you can ROLL BACK up to last commit is used.    **02**

**OR**

**To_Number**                                                          **02**

In oracle / PLSQL, the To_number function converts astring to a number.

**Syntax :**

  To_Number (String1; [format_mask], nls_language])

**To_CHAR**                                                            **02**

In oracle / PLSQL the TO-Char function converts a number or a date to a string.

**Syntax :**

To_Char (value, [format_mask], [nls_language])

**A.14  Data Dictionary -**                                           **2½**

A data structure is which meta-data can be stored is called a data dictionary. Commonly it is a table in a database that stores the names, field, types, length and other characteristic of the field is the database table.

In database management system this functionality is performed by the system catalague. It is also used to document the design process of database.

**Data Mining :**                                                     **2½**

Data mining is known as the sorting of data to know about the pattern through which we can make relationship in data mining we analyse the data stored is data warehouse by doing we can uncover the old undetected relationship.

There are three major data mining techniques regression, classification and clustering.

<center>**OR**</center>

**SDLC (Systems development life cycle) -**                           **05**

**The main steps of SDLC are :**

1.  **Requirements :** In this step we investigate the request from the user that what is requirement of the user what problem he -----.
2.  **Analysis :** In this step of SDLC we analys the present working that how present system is working.
3.  **Design :** After getting the specification of present system in this step we determine the change.

<center>16</center>

4. **Coding :** In this step programming the system and development of user documentation for the system as well as the programs.

5. **Testing :** In this step of SDLC testing verification and validation of the system is checked.

6. **Acceptance :** The tested system is installed or deployed on the users site and start working on the further system improvement inhancement etc.

**A.15 Standard module – Class module** 05

Both classes and modules are reference types that encapsulate items defined within but they differ in how there items are accessed from other procedure.

1. The primary difference between these is that classes can be instantiated and standards module can not because there is never more than one copy of a standared modules data when one part of your program changes a public variable in a standard module other part of the program gets the same value if it subsequently reads that variable.

Another difference is unlike standard modules, classes can implement interfaces,

**OR**

The two types of parameter which we can use to send in subroutine are - 05

**By Reference or By Value (By val)**
**By Ref.** is known as the default parameter when we send any variable with by Ref. is any subroutine and the value of the variable is changed in side subroutine wil change the value of the variable at source place.

But **By val –**
When we pass any variable with by val in any subroutine the value of variable changed in side the subroutine will not effect the value of variable out side. The

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subroutine means in sources variable is by Ref. memory address is sent in the subroutine that why value change out side also.

In By val copy of value of variable is send in subroutine so it can not change the value out side the subroutine

A.16   **IF-Then** statement are of the mostly used flow control statement, it can be used when we want to perform one task in one time when the given condition is true for false other task can be performed IF-Then Statement.   01

**Syntax can be written in two ways –**
1.      IF < Expression > Then <Line of Code to execute >                    02
        ---- OR -----
        IF < Expression > Then
        <multiple lines of code to execute >
        End IF

The <Expression > Parametre can be any Boolean value or logical expression.

**Example :**
For desiding some one is able for voting we can have the following program.

age = Text1.Text

If age > 18 Then text2.Text = "Eligible" in this we get the age in Text1 From the user and put in  variable age applying if we check condition and produce the result in Text2.Text.                                                         02

**OR**

**For-Next :**                                                                      **01**
         This loop is used when the condition comes of running the loop for number of times defined earlier. It can be come labours to create and manage

counter for each loop which is why we can use for – next loop. Counter count itself as the loop runs and exit when reached the upper limit.

**Syntax :** 02

Dim P as integer

For P = <Integer> To <Integer>

    <Code to execute>

Next P

**Example :** We can make Fibonacci series program using For Loop. 02

```
Public sub main ( )
Dim X as Integer
Dim Y as Integer
Dim count as Integer 'our counter'
For Count = 1 to 6
Debug.Print X
X = Y + X
Y = X – Y
Loop
End sub
```

A.17

1.     **Trim ( ) :** The Trim ( ) function removes all leading and trailing blanks. The Trim ( ) function is mostly used with fixed length string, user defined files and random access files.

**Syntax :** Trim (String)

**Example :**

TRIM ("GOOD DAY")

Output

GOOD DAY

2. **MID ( ) :** This function returns a substring containing a specified number of characters from a string.                                    02

**Syntax :**

MID (String, Start, [Length])

**Example :**

MID ("ABCDEFG", 2, 2)

Output

BC

3. **Now property function :** This function returns a date value containing the current date and time according to your system.                  02

**Syntax :**

Read only public property Now ( ) as Date time.

**OR**

**There are three types of error can occur in any program.**          02

1. Syntax error
2. Run time error
3. Logical error

                                                                       04

1. **Syntax error :** These occur when a command is not typed correctly.
2. **Runtime error :** These errors and usually beyond program's control **example –** Divide by Zero, file not found etc.
3. **Logical error :** These error will produce incorrect or unexpected result. These are most difficult to find.

**A.18 (Naming 02, Describing 04 Marks) –**

A database trigger is a block of code that is automatically executed in response to certain events. There are five types of trigger –

1. **Table – Level / DML Trigger :** DML trigger are available to fire whenever a record is inserted into, updated in or deleted from a table.

2. **View level trigger –** These are alternatives to DML triggers. They fire when inserts, updates are about to occur the program code specifies what to do in place of these DML operations.

3. **DDL Trigger :** DDL trigger fire whenever DDL is executed. Example – Whenever a table is created.

4. **Data base level Trigger :** These trigger can be activated at startup and shutdown.

5. **Session level trigger :** These trigger can be used to store specific information. For example - When a user logs on or off. You might want to test the or execute the code that contains the user's performance and loads them into memory for rapid access.

<div align="center">

**OR**

</div>

**(Naming 02, Describing 04 Marks) –**

      **Explicit cursor attributes -** Oracle provides some attributes known as Exiplicit cursor attributes to control the data processing while using cursors. These attributes are used to avoid errors while accessing cursors through OPEN FETCH and Close statements.

**The attributes are –**

1. **% FOUND –** This returns true, if fetch statement returns atleast one row.
   **Example :** Cursor_name % FOUND

2. **% NOT FOUND –** This returns true if fetch statement doesn't return a row.
   **Example :** Cursor_name % NOT FOUND

3. **% ROWCOUNT –** This returns the number of rows fetched by the fetch statement.
   **Example :** Cursor_name % ROWCOUNT

4. **% ISOPEN –** This is returns true if the cursor is alteady open in the program, False of cursor is not open in program.
   **Example :** Cursor_name % ISNAME.