

माध्यमिक शिक्षा मण्डल, मध्यप्रदेश, भोपाल



हायर सेकेण्डरी स्कूल सर्टिफिकेट परीक्षा

सत्र 2013—2014

प्रायोगिक परीक्षकों हेतु निर्देश

कक्षा— 11वीं एवं 12वीं
इन्फर्मेटिक्स प्रेक्टिस

सर्वाधिकार सुरक्षित मूल्यांकन इकाई, माध्यमिक शिक्षा मण्डल, मध्यप्रदेश, भोपाल

माध्यमिक शिक्षा मण्डल, मध्यप्रदेश, भोपाल

कक्षा 11वीं परीक्षा इन्फर्मेटिक्स प्रेक्टिस प्रायोगिक परीक्षा के निर्देश

समय— 3 घण्टे

विषय :—इन्फर्मेटिक्स प्रेक्टिस

पूर्णांक— 25

प्रायोगिक परीक्षा हेतु निर्देश

1. निर्धारित पाठ्यक्रमानुसार ही प्रायोगिक परीक्षा ली जाना है।
2. प्रायोगिक परीक्षा हेतु निर्धारित अंक 25 है।
3. अंक विभाजन का इकाईवार विवरण निम्नानुसार है :-

I.	Hands of Experience	-	10 अंक
II.	Practical File	-	05 , ,
III.	Project	-	05 , ,
IV.	VIVA Voce	-	05 , ,
			<hr/>
			25 अंक

1. Hands of Experience**10****A problem should be given covering the following**

- Table definition (The table must include constraints)
- A form with Label, Text, Command Button control, List Box, Drive List Box, Directory List Box, File List Box, Tool and Menu Bar (any 4)
- DSN to access table in the database.
- For data connectivity (Activex Database Control)
- Change to Text box Control Properties to view Database fields.

2. Practical File**05**

The practical File should contain print outs from each of the following topics.

1. Create an application using Visual Basic with a Text Box control to accept a name from the user and print "Hello <Name>" in a message box. E.g. when user types his name as "Kamla Kant" in the text box and clicks OK button, a message as "Bye Kamal Kant" should appear.
2. Create an Application having two Text Boxes on the Window. Get Title, First Name and Last Name in it. On clicking OK button a message should appear by joining Title+FirstName+Last Name+Last Name e.g. if user Prof. in Titel Rajyash in First Name, and Sawmi as Last Name then the message to be printed should be "Happy Deepawli Prof. Rajyash Swami."
3. Creating an application to let user guess any number and click a Play button given on the form. On Clicking the Play button the application will generate a random number. If the generated number is same as guessed by the user then display a message "You Win" otherwise display a message "You Losl".
4. Create an application to Display Image files kept in different folders in the system. The application should allow the user to navigate in the folders and list all Image Files (*.BMP,*.JPG) when ever a image file is selected it should get that picture displayed in an Image control.
5. Create an application having menu bar and tool bar to create a text file, navigate and open text files, edit text file and save changes made by the user.
6. Create a small application working as a general expose Calculator(+.-.*.+)
7. Sale Assignment (based on Demo Table present in the ORACLE database for example Emp table. Dept table and Sal Grade table) :
 - * Display all the records (all columns) from table Emp.
 - * Display Emp. No and Emp Name of all employees from the table Emp.
 - * Display Ename, Sal and Sal added with Comm from table Emp.
 - * Display EName joined with Job with heading "Employee", Sal* 12 as "Total Salary" from table Emp.
 - * Display distinct Sal of employees from table Emp.
 - * Show the Structure of table Dept.
 - * Write a query to display EName and Sal of Employees whose salary is greater than or equal to 3000 from table Emp.
 - * Write a Query to display employee name, salary and department number who are not getting commission from table Emp.

- * Write a Query to display employee Number, name, sal and sal* 12 as Annual Salary whose commission is not NULL from table Emp.
- * Write a Query to display employee name and salary of those employee who don't have their salary in the range of 1500 to 2000.
- * Write a Query to display name, job, salary, and HireDate of employees who are hired between February 20, 1981, and May 1, 1981. Order the query in ascending order of HireDate.
- * Write a Query to display the name and hire data of all employees who were hired in 1982.
- * Write a Query to display the name, job title and salary of employee who do not have manager.
- * Write a Query to display the name of employee whose name contains "A" as third alphabet.
- * Write a Query to display the name of employee whose name contains "T" as the last alphabet.
- * Write a Query to display the name of employee whose name contains "M" as first alphabet "L" as third alphabet.
- * Write a Query to display the name of employee who is having "L" as any alphabet of the name.
- * Write a Query to display the current system date.
- * Write a Query to display employee number, name, salary increase by 15% expressed as a whole number. Label the column as New Salary.
- * Write a Query to display the employee's name and salary review date, which is the date.
- * Write a Query to display the employee's name and salary review date, which is the date after six months of HireDate in format of "Sunday, 7 SEP, 1981."
- * For each employee display employee name and total number of days lapsed between HireDate and Today.
- * For each employees display employee name and total number of days lapsed between HireDate and Today.
- * Create a query that produces display in the following format.
<employee name> Earn \$ <salary> Monthly and working as <Job>
- * Write a query which displays the employee name with the first letter capitalized and all other letters lower case and length of their name strings.
- * Write a Query to display employee and commission amount. If the employee does not earn commission, put "No commission."
- * Write a query to display the grade of all employees based on the value of the column job as per following scheme :

Job	GRADE
PRESIDENT	A
MANAGER	B
ANALYST	C
SALESMAN	D
CLERK	E
NONE OF THE ABOVE	o

(4)

- * Write a query to display the EName and DeptNo and DName for all employees using table Emp and Dept.
- * Write a Query to display employee name, department name and location of all employees who have manager number between 7500 and 7900.
- * Write a Query to display the employee name, department number and all the employees that worked in the same department as a given employee.
- * Write a Query to display employee name and HireDate of employee who are employed after Employee 'BLAKE'.
- * Write a Query to display employee number, name and manager's name with their manager number.
- * Write a Query to Display the sum, Average, Highest and Lowest salary of the employees.
- * Write a Query to Display the Sum, Average, Highest and Lowest salary of the employees grouped by department number.
- * Write a Query to Display the Sum, Average, Highest and Lowest salary of the employees grouped by department number and sub-grouped by job.
- * Write a query to display the number of employee with same job.
- * Write a query to display the Average of Highest and Lowest salary of each department.
- * Write a query to display the difference of Highest and Lowest salary of each department having maximum salary > 4000.
- * Write a query to display the employee name and salary of those who either work in department 10 or have salary greater than employee 7521.

Before the following exercise please ensure that you are provided with a table Employee with following description.

Table : Employee

Name of Column	Type
ID	NUMBER (4)
First_Name	VARCHAR2(30)
Last_Name	VARCHAR2(30)
User_ID	VARCHAR3(30)
Salary	NUMBER(9.2)

- * Use DESCRIBE command to ensure the table structure.
- * Add the following data in the above Table as instructed.

ID	First_Name	Last_Name	User_ID	Salary
1.	Dim	Joseph	Jdim	5000
2.	Jagannath	Mishra	Jnmishra	4000
3.	Siddharth	Mishra	smishra	8000
4.	Shankar	Giri	sgiri	7000
5.	Gautam	Buddha	Bgautam	2000

- * Populate table with first record mentioning the column list in the insert clause.

- * Populate table with next two records without mentioning the column list in the insert clause.
- * Populate table with 4th record and enter only ID and First_Name.
- * Populate table with 5th record and enter ID, User_ID and Last_Name only.
- * For record with ID-4 update record with Last_Name User_ID and Salary.
- * For record with ID_5 update record with First_Name and Salary.
- * Make the changes permanent.
- * Modify the Last_Name, of the employee 3, to Gautam.
- * Modify the Salary and increase it by 1000, for all who get salary less then 500.
- * Delete the employe record having First_Name as Siddharth.
- * Make the changes permanent.
- * Remove the entire contents of the table.
- * Undo the above step.
- * Create a table Employeeel with columns ID, First_Name and Dept-ID from the table Employee and also confirm the existence of table Employeeel.
- * Create a view VU_Emp2 which should include column Emp.No. EName and DeptNo from the table Emp and change the column headings a EmpNumber, Employee, Department.
- * Select VIEW_NAME and TEXT from the data dictionary USER_VIEWS.
- * Create the table Department table based on the following table instance chart.

Column Name	ID	Name
Data Type	NUMBER	VARCHAR2
Length	8	25

- * Populate the table Department with data from table dept. Including only required columns.
- * Create the table Employee based on the following table instance chart.

Column Name	ID	Firs_Name	Last_Name	Dept_ID
Data Type	NUMBER	VARCHAR2	VARCHAR2	NUMBER
Length	8	25	25	8

- * Rename table Employee 1 to Employee 2.
- * Drop table Employee 2.
- * Drop table Employee and Department.
- * Create table Customer as per following Table Instance Chart.

Column Name	Cust_ID	Cust_Name	Cust_Address1	Cust_Address2	Pincode	Cust_Phone
Key Type						
Nulls/Uinque						
Fk Table						
Fk Column						
Datatype	NUMBER	VARCHAR2	VARCHAR2	VARCHAR2	NUMBER	VARCHAR2
Length	7	30	20	30	6	10

- * Add one column Email of data type VARCHAR2 size 30 to the table customer.
- * Change the data type of column pincode to VARCHAR2 (10) in the table Customer.
- * Add one more column Customer Income Group of datatype VARCHAR2 (10).
- * Insert few record with relevant information, in the table.
- * Drop the column Customer Income Group from table Customer.
- * Create table Department as per following Table Instance Chart.

Column Name	Dept ID	DeptName	DeptLocation
Key type	Primary		
Nulls/Unique		NOTNULL	
Fk Table			
Fk Column			
Datatype	NUMBER	VARCHAR 2	VARCHAR 2
Length	2	20	20

- * Create table Employee as per following Table Instance Chart.

Column Name	Emp_ID	Emp_Name	Amp_Address1	Emp_Address2	EmpSal	DeptID
Key Type	Primary					Foreign
Nulls/Unique		NOT NULL				
Fk Table						Department
Fk Column						Dept ID
Datatype	NUMBER	VARCHAR2	VARCHAR2	VARCHAR2	NUMBER	VARCHAR2
Length	6	20	30	10	9.2	2

- * Create table Employee1 as per the above Table Instance Chart but now use table level primary key addition method.
 - * Create table Employee 2 as per the above Table Instance Chart without any constraint while table creation.
 - * Add a PRIMARY KEY constraint to the table Employee 2 using the EmpID column.
 - * Add a FOREIGN KEY reference on the Employee2 table that will ensure that employee records with non-existent departments are to be prohibited.
 - * Confirm that constraints were added by quering Constraint_Name and Constraint from USER-CONSTRAINTS relation.
 - * Add a NOT NULL constraint to the table Employee 2 on column EmpName.
 - * Add a CHECK constraint to ensure, at the time of record insertinon, that employee records with salary less than 2000 are to be prohibited.
 - * Disable NOTNULL Constraint on the column EmpName form the table Employee.
 - * Drop UNIQUE constraint from the column DeptName in table Department.
8. Creat an application to list all the contents of a database table using a data control object in visual basic.
 9. Create an Application in Visual basic having Menu Bar Tool Bar and other controls to View, Add and Modify records present in the Database Tables.

3. Project : **05**
The following case study is to be used to develop a team project.

A cable company in Delhi is working since 1998. They have 2 Lac customers in different zones (North, South, East, and West). Company wants to computerise its working, which involves Customer Registration, Customer Billing, and Bill Collection on monthly basis.

Develop a Database Handling Software for the company. The software should have option to enter customer data and information of bill collection. The data entry form should also have option to navigate through the records.

The software should allow to store following information of customer and billing (Normalize this to store data in tabular form).

- Customer Name
- Customer Address
- Customer City
- Customer Zone
- Customer Pin Code
- Customer Phone
- Customer Interest (Movies, Games etc.)
- Customer Monthly Installment
- Customer Collection Data

(Suitable assumptions can be made).

The user interfaces should be designed in visual basic and must be user friendly with correct tab order.

Note: Similar type of cases can also be encouraged, provided it should include almost every aspect of course undertaken.

4. Viva Voce **05**
Five questions from topics covered in the syllabus.

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कक्षा 12वीं परीक्षा इन्फर्मेटिक्स प्रेक्टिस प्रायोगिक परीक्षा के निर्देश

समय— 3 घण्टे

विषय :—इन्फर्मेटिक्स प्रेक्टिस

पूर्णांक— 25

प्रायोगिक परीक्षा हेतु निर्देश

1. निर्धारित पाठ्यक्रमानुसार ही प्रायोगिक परीक्षा ली जाना है।
2. प्रायोगिक परीक्षा हेतु निर्धारित अंक 25 है।
3. अंक विभाजन का इकाईवार विवरण निम्नानुसार है :—

I.	Hands of Experience	-	10 अंक
II.	Practical File	-	05 , ,
III.	Project	-	05 , ,
IV.	VIVA Voce	-	05 , ,
			25 अंक

INFORMATION-PRACTICES
CLASS - XII
PRACTICAL

Duration : 3 Hours

Marks : 25

1. Hands of Experience

10

A problem should be given covering the following

1. Start a Standard Exe Project and it should contain MDI form with Menu Bar and Tool bar (with Images)
2. Table structure in the database for the application with Constraints (Primary Key, Foreign Key, Check, and Unique).
3. A New Form to place and ADO component on it, for accessing data in table Stored Procedure to perform transaction/conditional update.
4. Trigger (Any)
5. Data Report to view Data of Table.
6. Making executable files of the project.

2. Records

05

1. Create an Application using Visual Basic for Student Information System Having a Student table in ORACLE and a student Data Form in Visual Basic to enter data into the database.
2. Create an Application using Visual Basic for Criminals Information System Having a Criminal Table in ORACLE Database and a Criminals Data Entry Form in Visual Basic to enter data into Table in ORACLE database The Data entry form should contain form level and Field level checks using procedures.
3. Create an Application using Visual Basic for Nursing Home Automation System having Linked Forms in Visual Basic to enter data into the database. The Data entry form should contain form level and Field level checks using procedures. Use of Bond Controls and Sub-Forms are to be encouraged in this application.
4. Improve the above mentioned application by incorporating Data Reports to produce day to day, Weekly, Fortnightly, Monthly and Annual reports (Consult the instructor or collect live information for the requirement of Reports)
5. Create a database handling application of Student Expert System. Following features are to be incorporated in the application :
 - a. Create following linked tables of Student in the ORACLE database.
 - i. StudentMaster : containing general information about the student.
 - ii. StudentDetail : Table to store data having details such as Class, Section, Marks and other relevant information.
 - iii. StudentFeeDetails : Should contain details like Financial Year, Class, Fee.
 - iv. Accounts : General Accounts table to store fee collection details such as received.
 - b. The database should have Procedures to update data, Insert data and to perform other database transactions.
 - c. Database triggers should also be defined wherever automatic data modification is required.
 - d. Visual basic forms for data entry.

- e. Procedures in Visual Basic to perform Database Transactions and Commit changes made.
- f. Reporting tool to make the MIS reports, required to analyse data entry.

3. Project

05

The following case study is to be adopted for the development of project.

A book publishing company B R Publishing Group is in existence since 1950. They were untouched with latest technological inventions. They are still using a traditional approach of bookkeeping and accounts maintenance.

A company, Nova technology, introduced themselves as system integrator and developers who can change existing working system into the latest concept of paper less office. they wanted few details from the company about its working. The details are under :

- * Name of the company is B R Publishing Group.
- * The company is having 20 employees. One Managing Director, Two Managers.
(Work manager and Marketing Manager) and 17 employees who work as a team for book publishing.)
- * The company publishes book in different Indian languages and different topics.
Book Seller : 30%
Schools : 20%
Customer : 15%
- * The company is maintaining information about Author and all its details such as personal Information, Royalty etc.
- * The company managers information about the book such as Book Name, Author, Quantity Sold, Quantity in Stock, etc.
- * The compny maintains Customer (Book Sellers) information. Books Sold, Sbject, Language, and Amount Pending etc.
- * Reports are required at different levels, such as
Customer Listing
Book Listing
Language Wise Book Listing
Topic Wise Book Listing
Pending Amount Listing (Customer Wise, Book Wise)
Author Royalty Detail
Bill Generation etc.

As a developer you are required to design the project and develop it as per customer needs (Developer can also visit a publishing company to collect cutomer details and live data). Suitable assumptions can be made during implementation. A proper normalized database is to be maintained in the RDBMS and the front end it to be developed using advanced interface controls. User-friendly interface is to be generated. The project should include data reports for reporting purpose.

Note : *This is a sample case study, similar type of cases can be developed on different application areas such as Library, Hospital, Transport Authority, Transporters, Wholesale Merchants, and Chemist shops etc. The cases to be developed shouldpreferably be obtained from live situations.*

4. Viva Voce

05

Five questions from topic convered in the syllabus.