GOVT. D.B. GIRLS' P.G. (AUTONOMOUS) COLLEGE
RAIPUR CHHATTISGARH

SYLLABUS
OF
ADD-ON DIPLOMA
2020-21

Theory

Part A

No.	Title	Marks		Total
		Max.	Min.	
Paper-I	201- Programming in Visual Basic	50	17	50
Paper-II	202 - DBMS (SQL/Oracle)	50	17	50

Practical

Part B

	Name of The Practical	Marks	
		Max.	Min.
Practical-I	203 – Practical (Practical Based On Course 201 Programming in Visual Basic & 202 DBMS (SQL/Oracle))	50	17

APPROVED BY THE BOARD OF STUDIES ON

NAME	IN THE CAPACITY OF	SIGNATURE
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DEPARTMENT OF COMPUTER SCIENCE
ADD-ON (Diploma Course)
SESSION :2020-21
PAPER - I
201- Programming in Visual Basic

Maximum Marks: 50   Number of Units : V
Minimum Marks: 17

Unit I

Introduction to Visual Basic
1. Editions of Visual Basic, Event Driven Programming , Terminology, Working environment, Project & executable files, Understand Modules, Working Screen, Using code editor windows, Code documentation and formatting environment options, code formatting option .
2. Introduction to object, Controlling objects, Properties, Methods & Events, Working with forms. Interacting with user, MsgBox function, Input Box Function, Code statements, Managing forms, Creating a program in VB, Printing.

Unit II

Variable and Procedures and Controlling Program Execution
1. Overview of Variables, Declaring Variable, Scope of Variables, Arrays, User Defined data type, Constants working with procedure, Working with date & time, using the Format function, Manipulation text strings.
2. Comparison & logical Operators, if…. Then Statement, if …. Then … Else Statements, Select Case Statement, Looping Structure, Using Do… Loop Structure, for…Next Statement, Exiting a loop.

Unit III

Working with Controls & Controlling Program Execution
1. Type of Control, Overview of standard Controls, Combo Box & List Box, Option Button & Check Button, Frame Control, Menus, Status bar, Tool bar, Advanced standard Controls, Active X Controls.
2. Overview of Run Time Errors, Error Handling Process, The Error Object, Error handling in routine, Inline Error handling ,Error handling style, General Window, Local Window.

Unit IV

Sequential & Random Files & Data Access Using the ADO Data Control
1. Record Structure, Random Access File, The design and coding, saving data to file.
2. Overview of Active X Objects, VB data access features, Relational Database Concepts using the ADO Data Control to access data, Overview of ADO,RDO, Data Control, Structure Query Language (SQL), Manipulating data Using Data Form Wizard.

Unit V

Report Generation and Advance Tools
1. Overview of Report, Data Report, Add Groups, Data Environments, Connection to Database, Introduction to Crystal Reports Generator.
2. Overview of drag and drop , Mouse Events, Date- Time Control, Calendar, Print Dialogue, MDI (Multiple Document Interface.)

Suggested Book:- 1. Visual Basic   : - P. K. McBride
                          2. Visual Basic   : - Mastering in VB / Black Book
                          3. Visual Basic   : - Rita Sahu

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ADD-ON (Diploma Course)
SESSION : 2020-21
PAPER - II
202 - DBMS   (SQL/Oracle)

Maximum Marks: 50   Number of Units : V
Minimum Marks: 17

Unit 1
Introduction To DBMS: -Purpose of database systems, Views of data, Data Modeling, Database Languages, Transaction Management, Storage Management, Database Administrator and User, Database System Structure.

Unit 2
E-R Model: - Basic concepts, Constraints, Keys, Mapping Constraint, E-R Diagram, Weak and Strong Entity sets, E-R Database Schema, Reduction of an E-Schema to Table.

Unit 3
Relational Model: Structure to Relational Database, Relational Algebra, The Domain Relational Calculus, Extended Relational- Algebra Operation, Modification of database, Views.

Relational Database Design: - Pitfalls in Relational Database Design, Decomposition, Functional Dependencies, and Normalization: 1NF, 2NF, BCNF, 3NF, 4NF, 5NF.

Unit 4
Introduction to RDBMS Software - Oracle
Introduction: - Introduction to personnel and Enterprises Oracle, Data Types, Commercial Query Language, SQL, SQL* PLUS.

DDL and DML: Creating Table, Specify Integrity Constraint, Modifying Existing Table, Dropping Table, Inserting, Deleting and Updating Rows in as Table, Where Clause, Operators, ORDER BY, GROUP Function, SQL Function, JOIN, Set Operation, SQL Sub Queries.

Unit 5
Views: What is Views, Create, Drop and Retrieving data from Views.
PL-SQL/TSQL: Block Structure in PL-SQL/TSQL, Variable and Constants,Running PL- SQL/TSQL in the SQL *PLUS, Data base Access with PL-SQL/TSQL, Exception Handling, Record Data type in PL-SQL/TSQL, Triggers in PL-SQL/TSQL.

Suggested Books :
1. Data base system   : - Korth & Silberschatz.
2. Data Base Management System   : - Alexies & Mathews
3. An Introduction to Data base System   : - C.J. Date
4. Data Base Management System   : - Raguramakrishnan.
5. Data Base Management System   : - Elmasri & Nawathe.

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203- Practical (Practical Based On Course 201 & 202)

Maximum Marks: 50   Minimum Marks: 17

Distribution of Marks

Sessional	-	**10**
Practical	-	**30**
Viva	-	**10**

List of Practicals:

VISUAL BASIC

1. Write a Program for addition, subtraction, division, multiplication of two numbers using textbox and command button.

2. W.A.P to convert centigrade into Fahrenheit.

3. Write a program to swap the two numbers.

4. Write a program to check the given number is even or odd.

5. W.A.P for leap year checking using If...Else statement

6. W.A.P for calculating Shipment cost for an order which may either be placed be a wholesaler or a retailer. For a customer, the cost is calculated as:

for units	price for wholesalers	price for retailers
1-15	Rs 50/-	Rs 60/-
16-20	Rs 45/-	Rs 55/-
21-30	Rs 40/-	Rs 50/-
31-50	Rs 35/-	Rs 45/-
>50	Rs 30/-	Rs 40/-

Special customers are given a discount of 10%.

7. W.A.P. to change the font style, size, color, alignment by using option button.

8. W.A.P. to design a digital clock using timer control .

9. Design application to implement password check for security.

10. W.A.P to change the colors of labels using scroll bar.

11. W.A.P of Rocket Launcher using timer.

12. W.A.P for creating a traffic signal.

13. W.A.P of factorial using do-while loop.

14. Print the following

a) 1,2,3,4,5,……….10.   b) A,B,C,D………..Z.   c) 2,4,6,8,…………….n.

d) 1,3,5,7…………n.   e) 2,1,4,3,6,………..n,n-1.   f) 0,1,1,2,3,5,8,13,21,……

15. WAP to display a *table* of any number.

16. W.A.P to print following pattern on form using for loop.

```
a)    * * *              b) 3
      * *                   3  2
      *                     3  2  1
```

17. W.A.P of calculating simple interest using function.

18. W.A.P to illustrate the call by value and call by reference using function.

19. W.A.P to using procedure to find the smallest among three numbers

20. W.A.P to calculate the factorial by recursion.

21. W.A.P to search an element from a given array.

22. W.A.P of Matrix addition.

23. W.A.P for matrix multiplication.

24. W.A.P of string manipulation.

25. W.A.P to check whether the given string is palindrome or not without using string function.

 26.   W.A.P. to create menu Editor

27. W.A.P for creating a MDI form.

28. W.A.P of sequential file.

29. W.A.P for data base connectivity using the ADD INS WIZARD.

30. W.A.P for data base connectivity using the DATA ENVIRONMET.

31. W.A.P for database connectivity using the ADODC connectivity.

32. W.A.P   of report generation using DATA ENVIRONMENT.

DBMS PROGRAM LIST
SQL Practical List

1. Using the following database,

Colleges (cname, city, address, phone, afdate)

Staffs (sid, sname, saddress, contacts)

StaffJoins (sid, cname, dept, DOJ, post, salary)

Teachings (sid, class, paperid, fsession, tsession)

Subjects (paperid, subject, paperno, papername)

Write SQL statements for the following –

a. Create the above tables with the given specifications and constraints.

b. Insert about 10 rows as are appropriate to solve the following queries.

c. List the names of the teachers teaching computer subjects.

d. List the names and cities of all staff working in your college.

e. List the names and cities of all staff working in your college who earn more than 15,000

f. Find the staffs whose names start with „M‟ or „R‟ and ends with „A‟ and/or 7 characters long.

g. Find the staffs whose date of joining is 2005.

h. Modify the database so that staff N1 now works in C2 College.

i. List the names of subjects, which T1 teaches in this session or all sessions.

j. Find the classes that T1 do not teach at present session.

a. Find the colleges who have most number of staffs.

b. Find the staffs that earn a higher salary who earn greater than average salary of their college.

c. Find the colleges whose average salary is more than average salary of C2

d. Find the college that has the smallest payroll.

e. Find the colleges where the total salary is greater than the average salary of all colleges.

f. List maximum, average, minimum salary of each college

a. List the names of the teachers, departments teaching in more than one department.

b. Acquire details of staffs by name in a college or each college.

c. Find the names of staff that earn more than each staff of C2 College.

d. Give all principals a 10% rise in salary unless their salary becomes greater than 20,000 in such case give 5% rise.

e. Find all staff that do not work in same cities as the colleges they work.

f. List names of employees in ascending order according to salary who are working in your college

or all colleges.

a. Create a view having fields sname, cname, dept, DOJ, and post

b. Create a view consisting of cname, average salary and total salary of all staff in that college.

c. Select the colleges having highest and lowest average salary using above views.

d. List the staff names of a department using above views.

Table (Creation)

Q1. Create table worker which should have following fields & constraint

    Wcode   primary key
    Wname
    Wsal   default 1500
    Wcomm   check<200

Q2. Create table client_master.

    Client_no   varchar(7)
    Name   varchar(20)
    City   varchar(30)
    Pincode   number(8)
    State   varchar(15)
    Bal_due   number(10,2)

Q3. Create table product-master

    Product_no   varchar(7)
    Description   varchar(10)
    Profit_percent   number(4,2)
    Qty_on_hand   number(10)
    Reorder   number(8)
    Sell_price   number(8,2)
    Cost_price   number(8,2)

Q4. Create table salesman_master

    Salesman_no   varchar(6)
    Name   varchar(20)
    City   varchar(20)
    Pincode   number(10)
    State   varchar(20)
    sal_amt   number(8,2)
    tgt_to_get   number(8,2)

Queries (Retrival)

Q1. Retrieve the entity constant of the client master table.

Q2. Retrieve the list of the name and cities of the entire client.

Q3. List of various products available from the product_master table.

Q4. List all the clients who are located in Bombay.

Q5. Find the total salary of all salesman.

Q6. Find the names of salesman who have salary greater than 3000.

Q7. Find the names of the client who do not have zero balance.

Q8. Find the names of all clients where name starts with 'P'.

Queries (Updation)

Q1. Change the city of client-no 'c0002' to 'chennai'.

Q2. Change the bal_due of client_no'c0001' to Rs. 1000.

Q3. Change the cost_price of 'floppies' to Rs. 950.

Q4. Change the city of salesman to Mumbai.

Q5. Change the Qty_on_hand of 'CD drive' to 100.

Queries (Alter)

Q1. Add the column called 'Comm' of data type number and size=5 to sales master table.

Q2. Change the size of sell_price to (10,2) from Product_master.

Q3. Modify the 'Bal_due' as it can not have null value from client_master table.

Q4. Alter table EMP by adding column named 'Mob_no' then insert values in it.

PL/SQL

Q1. Addition of two numbers.

Q2. Write a program to receive two numbers and perform addition, subtraction, multiplication, division.

Q3. Write a program to check year is leap year or not where year is entered by user.

Q4. Write a program to check the given number is even or odd.

Q5. Write a program to display following pattern.

    a.)   * * *   b.)   *

             * *   * *

             *   *

Q6. Write a program for exception handling.

Q7. Write a program to illustrate working of trigger.

Q8. Write a program to find the factorial of any no.

Q9. Write a program to display the table of any one no.

Q10. Write a program to create function that take percent and display corresponding division.

Q11. Write a program using Stored Function which shows the grade of student.

Q12. Create a trigger so that data can be inserted only in business hour.

Q13. Write a PL/SQL code to print the 10 number and also insert into table called NumDemo.

Q14. Write a program for predefined exception.(ZERO_DIVIDE)

Q15. Create a trigger to modify one table to another.

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