

**2 0 1 9**

*Full Marks : 60*

*Time : 3 hours*

*The figures in the right-hand margin indicate marks*

Answer **all** the questions as directed

Section—A

**(Compulsory)**

1. Fill in the blanks :  $8 \times 1$

- (a) ERD stands for \_\_\_\_.
- (b) The characteristics of an entity are called \_\_\_\_.
- (c) User defined cursor is known as \_\_\_\_.
- (d) To rollback to a certain point of transaction \_\_\_\_ may be used.
- (e) An SQL statement is terminated by a \_\_\_\_.
- (f) \_\_\_\_ data type is used to refer to external files.

(g) \_\_\_\_\_ statement in SQL allows to change the definition of the table.

(h) \_\_\_\_\_ command removes the table definition from the database.

2. State 'True' or 'False' of the following : 8x

(a) Grant is not a DCL command.

(b) Columns of a table are also known as tuples.

(c) A table once created cannot be dropped.

(d) DDL stands for Data Definition Level.

(e) % ISOPEN attribute returns true, if the cursor is open.

(f) 'SYSDATE' is the date function in SQL.

(g) Only constant values can be passed as parameters to parameterized cursor.

(h) An unnormalised relation value is non-atomic.

( 3 )

Write the correct options from the

8x1

following :

(a) Which of the following is not a type  
of database?

(i) Hierarchical

(ii) Network

(iii) Relational

(iv) Transition

(b) What is the default size of  $n$  in a  
column which is defined as  
 $\text{VARCHAR}(n)$ ?

(i) NULL

(ii) 0

(iii) 1

(iv) 2

(c) Which of the following is an  
aggregate function in SQL?

(i) Union

(ii) Like

(iii) GROUP By

(iv) Max

(Turn Over)

( 4 )

(d) Which of the following is not a type of SQL statement?

- (i) Data Manipulation Language (DML)
- (ii) Data Definition Language (DDL)
- (iii) Data Control Language (DCL)
- (iv) Data Communication Language (DCL)

(e) Data model is a collection of the conceptual tool for describing

- (i) data
- (ii) data relationship
- (iii) both (i) and (ii)
- (iv) None of these

(f) The command used to open a CURSOR for loop is

- (i) open
- (ii) fetch
- (iii) parse
- (iv) cursor for loops handle cursor opening implicitly

(g) To discard all pending data changes, the command to be used is

- (i) COMMIT
- (ii) ROLLBACK
- (iii) SAVEPOINT
- (iv) LOCK

(h) Which of the following is a data querry statement in QUEL?

- (i) RETRIEVE
- (ii) SELECT
- (iii) GET
- (iv) None of the above

### Section—B

4. Answer any four questions : 4×3

- (a) What is view?
- (b) What is TRIGGER? Explain with an example.
- (c) Explain LOVs and forms trigger.
- (d) Explain GRANT and REVOKE commands.

- (e) What are locks? Enumerate the different types of lock.
- (f) Differentiate between data integrity and referential integrity.

## Section—C

5. Answer any four questions of the following : 4

(a) Define DBA and explain the function of DBA (Database Administrator)

(b) Explain PL/SQL block structure. Also mention few advantages of PL/SQL.

(c) Write program to input marks of four Hons paper and

(i) show total marks obtained

(ii) show percentage marks

(iii) display remarks as 'fail' if percentage <45.

Program should continue, if user request for next student.

(d) What do you mean by data model? Explain the relational model and network model.

( 7 )

(e) What is mapping constraints?

Define each by suitable example.

(f) Define any four arithmetic functions with suitable examples.

\*\*\*

... the correct answer ...

2018

Oracle

Time : 3 hours

Full Marks : 60

Pass Marks : 27

Candidates are required to give their answers in  
their own words as far as practicable.

The figures in the margin indicate full marks.

Answer from all the Sections as directed.

**Section – A**

**(Compulsory)**

1. Write the correct option from the following :

$1 \times 8 = 8$

(i) What is the language used by most of  
the DBMS for helping their users to access  
data ?

(a) High level language

(b) ✓ Query language

UJ – 17/3

(Turn over)

- (c) SQL  
 (d) 4GL
- (ii) A command that lets you change one or more fields in a record is :  
 (a) Insert  
 (b)  Modify  
 (c) Look-up  
 (d) All of the above
- (iii) This is an authorization command of SQL :  
 (a) Access  
 (b)  Grant  
 (c) Allow  
 (d) None of these
- (iv) Which of the following is an aggregate function in SQL ?  
 (a) Union  
 (b) Like  
 (c) Group By  
 (d)  Max
- (v) Which of the following is a data query statement in QUEL ?  
 (a) RETRIEVE  
 (b)  SELECT  
 (c) GET  
 (d) None of the above
- (vi) Which type of join returns all rows that satisfy the join condition ?  
 (a) Inner join  
 (b)  Outer join  
 (c) Semi join  
 (d) Anti join
- (vii) To discard all pending data changes, the command to be used is :  
 (a) COMMIT  
 (b)  ROLLBACK  
 (c) SAVEPOINT  
 (d) LOCK

- \* (viii) Which of the following is not transaction characteristic in SQL ?
- Access mode
  - Diagnostics size
  - Isolation level
  - Commit
2. Fill in the blanks of the following :  $1 \times 8 = 8$
- User defined cursors are known as Explicit
  - DROP command removes the table definition from database.
  - To set the number of lines between pages, for an SQL Report, Set Pages is used.
  - Integrity constraints can be enforced through referential integrity.
  - An SQL statement is terminated by a ;
  - Foreign key constraints establishes a relationship between records across a master and a detail table.
- (vii) A relation database consists of a collection of tables that stores particular sets of data.
- (viii) Function and Procedure are miniature programs.
3. State 'True' or 'False' of the following :  $1 \times 8 = 8$
- The principles of the relational model were first outlined by Dr. E. F. Codd. T
  - Grant is not a DCL command. F
  - Implicit cursors are user defined cursors. F
  - A table once created can not be dropped. F
  - Columns of a table are also known as Tuples. F
  - % ISOPEN attribute returns True, if the cursor is open. T
  - % Type is used to retrieve data types as same as in the table. T
  - In,out type of parameter are used for returning values from a function. F

### Section - B

Answer any four of the following :  $3 \times 4 = 12$

4. (a) What is the need of RDBMS ? What

are advantages and disadvantages of RDBMS ?

- (b) Explain Data Dictionary.
- (c) What is two phase locking ?
- (d) What do you understand by Self-join ?
- (e) Explain LOVs and Forms trigger.
- (f) Explain % ROWTYPE with suitable example.

### Section - C

Answer any four of the following :  $6 \times 4 = 24$

5. (a) Write a program that shows the usage of WHILE loop to calculate the average of numbers entered by user. The entry of numbers should be stopped by entering zero.
- (b) What is Cursor ? Explain with suitable example.
- (c) Explain PL/SQL block structure. Also mention few advantages of PL/SQL.
- (d) What is Package ? Explain with suitable example.

(e) Write notes on the following :

- (i) Normalization
- (ii) Indexing
- (iii) Row level Trigger

(f) Write down differences between :

- (i) SQL and PL / SQL
- (ii) Function and procedure

COPYRIGHT RESERVED Voc(H-3) — BCA (9)

2017 (Oracle)

Time : 3 hours

Full Marks : 60

Pass Marks : 27

*Candidates are required to give their answers in their own words as far as practicable.*

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*Answer from all the Sections as directed.*

### Section – A

1. Fill in the blanks of the following:  $1 \times 8 = 8$ 
  - (a) The three components of Relational model are data structure, integrity and manipulation
  - (b) The characteristics of an entity are called attributes
  - (c) User defined cursors are known as explicit cursors
  - (d) NVL function is used to substitute any NULL value with a user specified value.

- lement will
- (e) To Rollback to a certain point of transaction Savepoints may be used.
- (f) An SQL statement is terminated by a ;
- (g) The delete verb/command is used to delete rows from a table.
- (h) \_\_\_\_\_ datatype is used to refer to external files.
2. State 'True' or 'False' of the following :  $1 \times 8 = 8$
- T (a) Only constant values can be passed as parameters to parameterized cursors.
- T (b) IN, ANY and ALL operators are used to compare values retrieved by an inner query.
- F (c) A table once created can not be dropped. F
- F (d) Exclusive locks are placed on resources whenever read operations are performed. F
- T (e) Correlated subquery takes an approach opposite to that of a normal subquery. T
- $1 \times 8 = 8$
- (a) What will be the consequence of omitting 'where' clause in update statement ?
- (i) No effect on the query as well as on table
- (ii) All records present in the table will be updated
- (iii) Only one record will be updated
- (iv) None of the above
- (b) What is the default size of n in a column which is defined as VARCHAR(n) ?
- (i) Null
- (ii) 0
- (iii) 1
- (iv) 2

VT - 1/6

(2)

Contd.

VT - 1/6

(3)

(Turn over)

(c) The language used to request data from the DBMS is referred to as :

- (i) ✓ DML
- (ii) DDL
- (iii) Query language
- (iv) DBMS language

(d) Which of the following is not a type of SQL statement ?

- (i) Data Manipulation Language (DML)
- (ii) Data Definition Language (DDL)
- (iii) Data Control Language (DCL)
- (iv) ✓ Data Communication Language (DCL)

(e) LGWR process writes information into :

- (i) Database files
- (ii) Control files
- (iii) ✓ Redo log files
- (iv) All of the above

(f) Which line in the following statement will produce an error ?

- (i) Cursor action – cursor IS
- (ii) Select name, rate
- (iii) ✓ Into action-record
- (iv) There are no errors in these statements

(g) The command used to open a CURSOR FOR loop is :

- (i) Open
- (ii) Fetch
- (iii) Parse
- (iv) ✓ Cursor for loops handle cursor opening implicitly

(h) What is the maximum number of handlers processed before the PL/SQL block is exited when exception occurs ?

- (i) ✓ Only One
- (ii) All that apply
- (iii) All referenced
- (iv) Two

### Section - B

4. Answer any four questions :  $3 \times 4 = 12$

- (a) What do you understand by self-join?
- (b) What is the use of NVL function?
- (c) What is a view?
- (d) What is a RAW datatype?
- (e) Briefly explain the primary key and foreign key constraints.
- (f) What are locks? Enumerate the different types of lock.

### Section - C

5. Answer any four questions of the following :  $6 \times 4 = 24$

- (a) Write a PL/SQL (using cursor) to increase the salary by 30% for those employees who earn less than 30,000 and by 10% for those employees who earn more than 30,000.
- (b) What is 'SEQUENCE' object? Explain its syntax before <sup>9/10/12</sup> copy

(6)

(Turn over)

VT - 1/6  
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VT - 1/6 (400)

(7) Voc(H-3) — BCA (9)

- (c) What are database triggers? Explain different types of trigger.
- (d) Explain PL/SQL block structure. Also mention few advantages of PL/SQL.
- (e) What is 'Exception'? How is it taken care of in a PL/SQL? Explain any four system exceptions with examples. 16/09/17
- (f) What is 'Serializability'? How is it ensured?



schedule  
social schedule

BFILE

2016

Time : 3 hours

Full Marks : 60

Pass Marks : 27

Candidates are required to give their answers in  
their own words as far as practicable

The figures in the margin indicate full marks.

Answer from all the Sections as directed.

Section - A

(Compulsory)

1. (A) Write the correct option from the following :

$1 \times 8 = 8$

- (i) Which of the following is not a type of database ?
- (a) Hierarchical
  - (b) Network
  - (c) Relational
  - (d) Transition

AP – 6/3

( Turn over )

Turn over  
0'6

(ii) Which of the following is not a type of SQL statement?

- (a) DML
- (b) DDL
- (c) DCL
- (d) ~~DSL~~

(iii) Which of the following is not included in DML (Data Manipulation Language)?

- (a) INSERT
- (b) UPDATE
- (c) DELETE

~~✓ CREATE~~

(iv) 5NF is related to :

- (a) Functional Dependency
- (b) Multivalued Dependency
- (c) ~~Join~~ Dependency
- (d) None of these

(v) One can display all columns of the data in a table by following the SELECT keyword with :

(vi)

(2)

Contd.

~~(b)\*~~

(c) -

(d) ?

(vi) What is the date function in SQL?

- (a) Data
- (b) SYSTEMDATE
- (c) ~~SYS~~DATE
- (d) None of these

(vii) Data model is a collection of the conceptual tool for describing :

- (a) Data
- (b) Data Relationship
- (e) Both (a) and (b)
- (d) None of these

(viii) To Discard all pending data changes, the command to be used is -

- (a) COMMIT
- (b) ~~ROLLBACK~~
- (c) SAVEPOINT
- (d) LOCK.

AP - 6/3

(3)

(Turn over)

016

- B) Fill in the blanks of the following :  $1 \times 8 = 8$
- open database connectivity
- ODBC stands for open database connectivity.
  - A subschema expresses the external view.
  - Alter statement in SQL allows to change the definition of the table.
  - E-R model uses double rectangle symbol to represent weak entity set.
  - SET concept is used in networks model.
  - An SQL Statement is terminated by ;
  - User defined cursors are known as explicit.
  - Drop command removes the table definition from database.
- C) State 'True' or 'False' of the following :  $1 \times 8 = 8$
- An unnormalised relation value is Non-atomic. F

- 6/3

(4)

Contd.

- The principles of the relational model were first outlined by Dr. E. F. Codd. T
- NULL value can be inserted into columns of any data type.
- Columns of a table are also known as tuples. F
- GRANT is a DCL command. T
- Explicit cursors are user defined cursors. True
- A table once created can not be dropped. F
- TRUNCATE is a DDL statement. T

#### Section - B

2. Explain any four of the following :  $3 \times 4 = 12$

- What is TRIGGER ? Explain with an example. 2017.5.(c)
- Write a PL/SQL block to find factorial of the given number.
- Explain GRANT and REVOKE Commands.

AP - 6/3

(5)

(Turn over)

(a) What is View ? What is the difference between View and Table.

(b) Differentiate between Data Integrity and Referential Integrity.

(i) Write short notes on any two of the following :

(i) ROUND FUNCTION and FLOOR FUNCTION

(ii) DBA

(iii) E-R Diagram

(iv) COMMIT and ROLLBACK

### Section - C

Q. Answer any four questions of the following :

$$5 \times 4 = 2$$

(a) What is Normalization ? Explain 3NF and BCNF.

(b) Write PL/SQL block to find the Sum and Average of 10 numbers.

(c) Consider the following tables :

EMPLOYEE (e-no, ename, joining date, salary, dept-code)

DEPT (dept-code, dept-name)

- 6/3 (6) Contd.

AP - 6/3

Now write down Queries in SQL for getting the following informations :

(i) Displaying each employee name and date of joining of 'Production' Dept.

(ii) Writing Query to calculate length of service of each employee.

(iii) Finding the second highest salary among all employees.

(iv) Displaying all employees' names and department name arranged on department name.

(v) Displaying the details of those employees who earn greater than Average of their department

(d) What do you mean by Data Model ? Explain the Relational Model and Network Model

(e) Explain the function of Database Administrator (DBA).

(f) What are advantages of using PL/SQL ? Explain with example.

(g) Explain the following :

(i) DML and DDL 111 f page

AP - 6/3

(7)

( Turn over )

- ~~(ii) Schema and Subschema~~
- ~~(iii) GROUP BY and ORDER BY~~
- ~~(iv) INNER JOIN and EQUI JOIN.~~ 143
- ~~(v) What is CURSOR ? Explain different types of CURSOR with examples.~~  
280, 1256, copy

(8) Voc(H-3) — BCA (9)

AP - 6/3 (50%)

C16

2015

Time : 3 hours

Full Marks : 60

Pass Marks : 27

*Candidates are required to give their answers in  
their own words as far as practicable.*

*The figures in the margin indicate full marks.*

*Answer all the Sections as directed.*

### Section - A

1. Fill in the blanks :  $1 \times 8 = 8$
- A relation is said to be in 3NF if it is in 2NF and there is no transitive dependency.
  - To set the number of lines between pages, for an SQL Report, \_\_\_\_\_ is used.
  - The three components of Relational model are \_\_\_\_\_, \_\_\_\_\_ and \_\_\_\_\_.
  - Integrity constraints can be enforced through Entity integrity and Referential integrity.

will check the  
a new record is in  
the table. It will abort if  
the query and  
is less than 10,000.

To Rollback to a certain point of transaction  
SELECT may be used.

DELETE clause, used to define a foreign key in the child tables allows to delete rows from the Master table and at the same time the dependent rows in all child tables are automatically deleted.

- NN^ (g) \_\_\_\_\_ function is used to substitute any NULL value with a user specified value.  
(h) \_\_\_\_\_ datatype is used to refer to external files.

2. State 'True' or 'False' of the following :

1x8 = 8

- (a) IN OUT type of parameter are used for returning values from a function. F  
(b) 3rd cudd Rule of RDBMS deals in "Systematic Treatment of NULL Values." T  
(c) 'SQL%RECCOUNT' attribute is used to determine total number of rows returned by a 'select' statement used in PL/SQL block.  
(d) 'LGWR' background process writes data to the secondary storage.

FY - 1/5

(2)

Contd.

- (e) IN, ANY, and ALL operators are used to compare values retrieved by an inner query.  
(f) Correlated subquery takes an approach opposite to that of a normal subquery.  
(g) A 'view' is accessible even after its base (or underlying) 'table' is removed from the database.  
(h) 'VARRAY' type object is used to store varying type of data values.

3. Match words and phrases in Column -A with the closest related/meaning words/phrases in Column -B : 1x8 = 8

Column - A	Column - B
(a) QBE	(i) Referential Integrity
(b) Degree of Relation	(ii) Relational calculus
(c) Open	(iii) Graphical version of SQL
(d) Duplicate Removal	(iv) Relational Algebra
(e) Trigger	(v) Number of columns in a relation
(f) Domain	(vi) Third Normal Form

FY - 1/5

(3)

(Turn over)

Column A	Column B
(g) Schema	(vii) Cursor operation
(h) Foreign	(viii) Number of rows in a relation
	(ix) Pool of values
	(x) Select Distinct form
	(xi) Integrity check
	(xii) Set of objects owned by a user account

### Section – B

Answer any four questions of the following :

$$3 \times 4 = 12$$

4. (a) Define the following :

(i) Foundation Rule ( $\theta^{\text{th}}$  Rule) of RDBMS  
 (ii) Transitive Dependency

(b) Write a query to list name of employees whose salary is greater than overall average salary (Employee {ename, salary}).

(c) Explain 'ACID' properties of Transaction.

F FY – 1/5

(4)

Contd.

(d) Write a trigger which will check the value of 'Salary' field when a new record is inserted into the employee table. It will abort the insertion process if salary is less than 10,000 or salary is greater than 50,000.

(e) Differentiate between Nested subquery and correlated subquery with example.

(f) Write a function which will accept a number, and return its factorial ; also show how the function will be executed from the 'SQL' prompt.

### Section – C

Answer any four questions of the following :

$$6 \times 4 = 24$$

5. (a) Explain all available constraint with proper example.

(b) Write a PL/SQL (using cursor) to increase the salary by 40% for those employees who earn less than 20,000 and by 20% for those employees who earn more than 20,000.

FY – 1/5

(5)

(Turn over)

- (c) What is a 'view'? How is it different from 'Materialized view'? Explain the different 'Refresh' options of Materialized view. (Give suitable examples).
- (d) What is 'Exception'? How is it taken care of in a PL/SQL? Explain any four system exceptions (Give suitable examples).
- (e) What is 'Serializability'? How is it ensured?  
Explain.
- (f) Explain the 'System Global Area (SGA)' of ORACLE. P-99
- (g) Write notes on the following :  
(i) 'Compute Sum' and 'Break On'  
(ii) 'Translate' and 'Decode'  
(iii) 'CEIL' and 'FLOOR'
- (h) What is 'SEQUENCE' object? Explain its syntax.



2014

Full Marks : 60  
Pass Marks : 27

Time : 3 hours

*The figures in the right-hand margin indicate marks*

Answer all Sections

Section—A

(Compulsory)

1. Fill in the blanks : 8×1

- (a) An SQL statement is terminated by  
a ,.
- (b) Foreign key constraint establishes  
a relationship between records  
across a master and a detail table..
- (c) The SQL commands/sentences  
which are used to create the objects  
are called Create.
- (d) The characteristics of an entity are  
called attribute.
- (e) The delete verb/command is  
used to delete rows from a table.

K/4(8)—360

(Turn Over)

(2)

(3)

(f) To find information about the columns defined in a table Select command is used.

(g) Commit statement makes the changes permanent which have been made during the transaction.

(h) User defined cursors are known as Explicit cursor

2. Write true or false of the following : 8x1

(a) Columns of a table are also known as Tuples. True

(b) % ISOPEN attribute returns TRUE, if the cursor is open. True

(c) Primary key constraint ensures that the data entered in a column is unique across the entire column. True

(d) NULL value can be inserted into columns of any data type. True

(e) A subquery is a form of an SQL statement that appears inside another SQL statement. True

(f) To display messages to the user, the SERVEROUTPUT should be set to OFF. False

K/4(8)

(Continued)

(g) Only constant values can be passed as parameters to parameterized cursors.

(h) Exclusive locks are placed on resources whenever read operations are performed, True on both read & modify

3. Match the following : 8x1

Column-A

(a) / \* /

(b) DUAL

(c) LIKE predicate

(d) BETWEEN operator

(e) Explicit cursor

(f) Mechanism to ensure data concurrency

(g) Locks

(h) ROWID

(i) Index

Column-B

(j) Address field of index (g)

(k) String comparison (c)

(l) Active data set (e)

(m) Comment entry (d)

(n) Ordered list of contents of a column or multiple columns in a table (h)

(o) Small worktable b containing one row and one column

(p) Range searching (d)

Section-B

Answer any four questions : 4x3

Explain the concept of NULL values.

K/4(8)-360

(Turn Over)

(4)

5. What do you understand by self-join?
6. Briefly explain the primary key and foreign key constraint.
7. What are locks? Enumerate the different types of lock.
8. Briefly explain grant and revoke command.
9. Briefly explain commit and rollback statement.

### Section-C

Answer any three questions :

3x8

10. Explain PL/SQL block structure. Also mention few advantages of PL/SQL.
11. Explain parameterized cursor with an example.
12. Write a PL/SQL code to calculate the area of a circle, for a value of radius varying from 2 to 5. Store the radius and corresponding values of calculated area in a table called areas with 2 columns-radius and area.

K/4(8)

(Continued)

(5)

13. What are functions or procedures in Oracle? List few advantages of using a function or procedure ~~etc notes~~.
14. What are database triggers? Explain different types of trigger.

2013	Grant
(1) v	Procedure
(2) n	Information
(3) l	Function
(4) b	Block

(2)(2) (6) 360

T	1
T	2
F	3
T	4
F	5
T	6
T	7

2013

BCA

NINTH PAPER

Full Marks : 60  
Pass Marks : 27

*Time : 3 Hours*

SECTION - A

*Candidates are required to give their answers in their own words as far as practicable*

*Figures in the margin indicates full marks.*

*Answer all questions.*

1. Write the correct option from the given choices:  $1 \times 10 = 10$ 
  - (a) Number of tuples in a relation is known as
    - (i) cardinality
    - (ii) degree
    - (iii) modality
    - (iv) none of the above
  - (b) DISTINCT clauses is used to
    - (i) Display duplicate value
    - (ii) Eliminate duplicate value
    - (iii) Eliminate single value
    - (iv) Display all values
  - (c) Create, alter and drop are examples of
    - (i) DDL
    - (ii) DML
    - (iii) DCL
    - (iv) None of the above
  - (d) A database is divided into logical division called:
    - (i) Control files
    - (ii) Database file
    - (iii) Table space
    - (iv) None of the above
  - (e) A foreign Key is a combination of columns with values based on the primary key values from:
    - (i) Same table
    - (ii) Another table
    - (iii) Multiple table
    - (iv) None of the above

- (f) Select Command is used to  
 (i) Return information from the table  
 (ii) Join the two tables  
 (iii) Open the table  
 (iv) None of the above
- (g) ORDER BY clause must always be the -  
 (i) First in select statement      (ii) Second in select statement  
 (iii) Last in select statement      (iv) None of the above
- (h) SQL %ROWCOUNT is used in :  
 (i) PL/SQL                        (ii) SQL  
 (iii) Form design                (iv) None of the above
- (i) Dual Table is used for -  
 (i) Insert Clause                (ii) Update Clause  
 (iii) Alter Clause              (iv) ~~Select~~ Clause
- (j) Data model is a collection of conceptual tool for describing  
 (i) Data                         (ii) Data relationship  
 (iii) Both (i) and (ii)        (iv) None of the above
2. Fill in the blanks     $1 \times 6 = 6$
- (i) The Authorisation command in SQL is ... *Grant*.....
- (ii) ... *Drop*..... command can be used to remove the table completely.
- (iii) The data that is stored in a cursor is called *active list and pointer*.
- (iv) UNION, INTERSECT & MINUS are *Set Operations*.
- (v) ..... symbol is terminator for SQL statements.
- (vi) ... *TRUE/FALSE*.... returns TRUE if open, False otherwise.
3. STATE whether the following statements are true or false       $1 \times 8 = 8$
- (i) GRANT is DCL command *T*  
 (ii) You can have only one primary key in a table. *F* *T*  
 (iii) INITCAP() converts string to uppercase. *F*  
 (iv) Sysdate function give the current date. *T*  
 (v) Null values means absence of data. *T*  
 (vi) A trigger is a statement that is executed automatically by the system whenever the database is modified. *T*  
 (vii) Foreign key values can be left blank. *F*  
 (viii) Explicit cursors are user defined cursors. *T*

## SECTION - B

4. Differentiate any three of the following                                   $3 \times 3 = 9$
- (i) View and Table  
 (ii) Group by and order by clause

Date:

2012

12SA

## NINETH PAPER

Full Marks : 60

Pass Marks : 27

Time : 3 hours

The figures in the margin indicate full marks  
for the questions

Candidates are required to give their answers in their  
own words as far as practicable

## SECTION-A

1. Write the correct option from the given choices : 1×10=10
  - (a) The relational database environment has all the following components, except:
    - (i) user
    - (ii) separate files ✓
    - (iii) database X
    - (iv) query language
  - (b) Database management systems are intended to
    - (i) eliminate data redundancy
    - (ii) establish relationship among records in different files
    - (iii) manage file access
    - (iv) maintain data integrity
    - (v) All of the above ✓

(3)

- (c) The language used application programs to request data from the DBMS is
- (i) DML
  - (ii) DDL
  - (iii) query language
  - (iv) Both (i) and (iii) ✓
  - (v) None of the above

- (d) The highest level in the hierarchy of data organisation is
- (i) data bank
  - (ii) database
  - (iii) data file
  - (iv) data record

- (e) Choose the RDBMS which supports full client server application development
- (i) dBase V
  - (ii) Oracle 8i ✓
  - (iii) FOXPRO 2.1
  - (iv) None of the above

- (f) A top-bottom relationship among the items in a database is established by a
- (i) hierarchical schema ✓
  - (ii) network schema
  - (iii) relational schema
  - (iv) object schema

- (g) The ascending order of data hierarchy is
- (i) bit-byte-record-file-database
  - (ii) byte-bit-field-record-file-database
  - (iii) bit-byte-field-record-file-database ✓
  - (iv) bit-byte-file-record-field-database

- (h) Which of the following is a problem of file management system?
- (i) Difficult to update
  - (ii) Lack of data independence
  - (iii) Data redundancy
  - (iv) Program dependence
  - (v) All of the above ✓

- (i) Which is the language used by most of DBMS for helping their user to access data?
- (i) High-level language
  - (ii) SQL ✓
  - (iii) Query language
  - (iv) 4GL

- (j) The primary key is the key which
- (i) maintains duplicacy
  - (ii) is having uniqueness ✓
  - (iii) is not null ✓
  - (iv) Both (i) and (iii)
  - (v) None of the above



( 8 )

( 4 )

( 5 )

2. Fill in the blanks.

multiple

$1 \times 8 = 8$

(a) In the network model, a record can have multiple parents. ~~one~~ more than one

(b) The name of a table can be changed with Renam command. rename

(c) The column on which ORDER BY is done must be a part of select statement.

(d) Char data type stores only Freal character ~~float~~ ~~number~~

(e) The maximum length of VARCHAR2 data type is 32, when used in PL/SQL code and when used in a table. 4000 characters

(f) The order by clause whenever used should always be the last clause of an SQL query.

(g) All changes made in database must be maintained in master file.

(h) Extent is the collection of contiguous blocks ~~data~~

3. State True or False for the following :  $1 \times 6 = 6$

(i) A table once created cannot be dropped. X

(j) A table can have more than one primary key. F

12SA-500/177

(Continued)

question  
two lines.

(a) On-line transaction processing (OLTP) consists of more DML and less DDL statements.

(b) The UNIQUE and FOREIGN keys cannot have NULL values. T

(c) The size of a column in a table cannot be decreased, once value is inserted in it. T

(d) The VARCHAR2 data type comes under standard SQL data type.

## SECTION-B

Q. Differentiate any three of the following :  $3 \times 3 = 9$

(a) DBMS and RDBMS DBP

(b) Primary key and Foreign key PK

(c) Group by clause and Order by clause GBC

(d) Data integrity and Data redundancy DI

(e) DELETE command and TRUNCATE command

(f) INNER JOIN and OUTER JOIN IJO

12SA-500/177

( Turn Over )

( 6 )

5. Explain any three of the following :  $2 \times 3 = 6$

(a) Attribute with example ~~SSAD notes~~

(b) O level DFD

(c) ER diagram ~~P 41~~

(d) COUNT function ~~27~~

(e) ABS function

(f) OLTP ~~online transfrw prot~~

6. Create a table sales\_order\_detail with its primary key as Detorder\_no and Product\_no. The foreign key is Detorder\_no referencing column order\_no in the sales\_order table.  $5$

### SECTION - II

7. Answer any four questions  $4 \times 4 = 16$

(a) What is CURSOR? Explain different types of CURSOR with example.

(b) What do you mean by normalization? Also mention features of 3NF normalization form.

(c) Write PL/SQL block to find the sum and average of 10 numbers.

(d) Explain about the different components of transaction.

(e) Explain about the TRIGGER. plain with example.

( 7 )

(i) Write short notes on (any two) :

(a) SCHEMA

(b) Database Administrator

(c) DML

(d) JOIN Command

\*\*\*

45  
60

B. Ques no. 5

while ( $i >= 10$ )

sum = sum + i

$\{ i = i + 1 \}$

sum / 10

ans

10

ans

2011

BCA

NINTH PAPER

Full Marks : 60  
Pass Marks : 27

Time : 3 hours

69119  
70132  
73391  
8432The figures in the margin indicate full marks  
for the questionsCandidates are required to give their answers in their  
own words as far as practicable

## SECTION—A

(i) Write short notes on :

(i) DBA

(ii) Oracle Form Designer



1. Select the correct option from the given choices :  $1 \times 10 = 10$

(a) In command,

SELECT id\_number, (quantity-100/  
0.15-35\*20) FROM inventory which  
expression is evaluated first?

- (i) quantity-100
- (ii) 0.15-35
- (iii) 35 \* 20
- (iv) 100/0.15

11msa—600/377

( Turn Over )

msa—600/377

BCA—IX-Part-III

( 2 )

- Number of tuples in a relation is known as
- cardinality  
 degree  
 modality  
 None of the above
- (c) The overall description of database is known as
- instance  
 schema  
 snapshot  
 None of the above
- (d) DISTINCT clause is used to
- eliminate single value  
 display duplicate value  
 eliminate duplicate value  
 display all values
- (e) ORACLE provides a special table that can be used to test any function. This table is
- DUAL table  
 EMP table  
 EMPLOYEE table  
 None of the above

11msa-600/377

(Continued)

( 7 )

- (e) Displaying the details of those employees who earn greater than average of their department

SECTION-C

7. Answer any four questions : 4x4=16

- (a) What do you mean by normalization? Define functional dependency and multivalued dependency.

(b) Explain relational database model.

- (c) What is cursor? Explain different types of cursor. 354

(d) Write a PL/SQL code block to calculate the area of a circle for a value of radius varying from 3 to 7. Store the radius and corresponding value of calculated area in a table.

Refer

- (e) Explain ACID properties of database transaction.

- (f) What is a view? What are its advantages? Explain the syntax for creating views.

11msa-600/377

( Turn Over )

( 6 )

5. Explain any three of the following : 2x3=6

- (a) Primary key ✓
- (b) Foreign key ✓
- (c) LPAD ✓
- (d) TO\_CHAR ✓
- (e) SUM ✓
- (f) INSTR ✓

6. Consider the following tables :

EMPLOYEE (e\_no, ename, joining\_date, salary, dept\_code)

DEPT (dept\_code, dept\_name)

Now write down queries in SQL for getting the following information : 1x5=5

- (a) Displaying each employee name and date of joining of 'PRODUCTION' department
- (b) Writing query to calculate length of service of each employee
- (c) Finding the second maximum salary among all employees
- (d) Displaying all employee name and department name arranged on department name

( 3 )

(f) %TYPE is used for

- (i) declaration of same type for a row
- (ii) declaration of same type for an item ✓
- (iii) declaration of different types for each item
- (iv) None of the above

(g) CREATE, ALTER and DROP are examples of

- (i) DDL ✓
- (ii) DML
- (iii) DCL
- (iv) None of the above

(h) If left out, which would cause an infinite loop to occur in a single loop?

- (i) LOOP ✓
- (ii) IF-THEN
- (iii) END LOOP
- (iv) EXIT ✓

(i) The transaction control that prevents more than one use from updating data in a table is

- (i) COMMIT
- (ii) SAVEPOINT ✓
- (iii) LOCK
- (iv) ROLLBACK

11msa-600/377

(Continued)

11msa-600/377

( Turn Over )

( 4 )

- 1) To substitute any NULL value with a user-specified value, we use  
 (i) TO\_CHAR function  
 (ii) NVL function  
 (iii) DATE function  
 (iv) None of the above

2. Fill in the blanks : 1x8=8

- (a) A repository of information about a database is known as ~~data dict~~ Data dictionary  
 (b) symbol is terminator for SQL statements.  
 (c) ORACLE allows to define constraints at ~~table~~ level or ~~column~~ level. (row, column)  
 (d) returns TRUE if cursor is open, FALSE otherwise.
- 26/13  
 (e) ~~Exit~~ command from SQL prompt is used to terminate from SQL.  
 (f) ~~LOB~~ data type is used to store variable length character strings containing up to 2 GB.  
 (g) The ~~with~~ clause is used to group rows based on distinct values that exist for specified columns. (Group key)  
 (h) ~~exception~~ section of PL/SQL deals with handling of errors that arise during execution of the code block.
- 11msa-600/377 Lekshmi

( 5 )

( 15 )

3. State True or False of the following : 1x6=6

- (a) GRANT is DCL command. T  
 (b) Names of the views can be seen from user table. F  
 (c) You can have only one primary key in a table. T  
 (d) ORDER BY clause cannot be used in subquery. F  
 (e) ROLLBACK makes the transaction permanent. F  
 (f) INITCAP() converts string to uppercase. F

SECTION-B.

4. Differentiate any three of the following : 3x3=9

- (a) 3NF and BCNF  
 (b) Weak entity and strong entity sets  
 (c) INNER JOIN and EQUI JOIN  
 (d) ROUND function and FLOOR function  
 (e) INTERSECTION operator and MINUS operator  
 (f) DELETE command and DROP command
- 11msa-600/377

( Turn Over )

2010

BCA

FOURTH PAPER

Total Marks : 60  
Pass Marks : 27

Time : 3 hours

The figures in the margin indicate full marks  
for the questions

Candidates are required to give their answers in their  
own words as far as practicable

SECTION—A

1. Select the correct option from the given  
multiple choices of each question :  $1 \times 10 = 10$

- (a) Data model is a collection of conceptual  
tool for describing
- (i) data
  - (ii) data relationship
  - (iii) Both (i) and (ii)
  - (iv) None of the above

MSA-300/75

( Turn Over )

( 2 )

- a) In a relation, data is stored in the columns.
- b) columns
- c) attributes
- d) record
- e) entity
- f) In an E-R diagram, the entities are represented by
- g) a rectangular box
- h) an ellipse
- i) a square
- j) a triangle
- k) An attribute composed of multiple components each with an independent existence is called
- l) derived attribute
- m) simple attribute
- n) multi-valued attribute
- o) composite attribute
- p) The participation constraint can be
- q) total
- r) partial
- s) total or partial

( 3 )

- q) The join operation is
- a) binary operation
- b) ternary operation
- c) unary operation
- d) None of the above
- g) Operation used to select a subset of the tuples from a relation that satisfies a selection criteria
- h) Project
- i) Select
- j) Cartesian
- k) Join
- h) Every Boyce-Codd Normal Form (BCNF) is in
- l) First Normal Form (1NF)
- m) Second Normal Form (2NF)
- n) Third Normal Form (3NF)
- o) None of the above
- i) Which one of the following is not a valid aggregation function in SQL?
- o) Avg
- p) Sum
- q) Min
- r) Max

4

operator is

③

ONION ALL  
MINUS  
DIVIDE  
INTERSECT

2. Fill in the blanks with appropriate words/  
character :  $1 \times 8 = 8$

(a) The Authorization Command in SQL

(b) ~~GRANT~~ Command

(c) Embedded SQL statements are prefixed by a ~~/~~ character. ~~SQL~~ Command

(d) In DBMS, ~~PL/SQL~~ language is a special purpose programming language for searching and manipulating data.

(e) ~~is used along with GROUP BY clause to define a condition on the group Having.~~

(f) ~~operator is used to find the NULL values in the column.~~

(g) ~~Command can be used to remove the table completely.~~

(h) ~~can be used to declare a variable in PL/SQL to refer a column name to insert its date type of any size.~~

(i) ~~blocks that can accept parameters and return a value.~~

MSA-300/75

(Continued)

3. State True or False of the following

(a) With one UPDATE statement, we can change more than one column value in a row. T

(b) TRUNCATE is a DDL statement T

(c) Once we drop a table, the action cannot be undone.

(d) CREATE TABLE command in SQL can be used to create a virtual relation F

(e) PL/SQL can use variables to store values. T

(f) 5NF is also called project Join Normal Form T

## SECTION-B

4. Differentiate any three of the following  $3 \times 3 = 9$

(a) Data integrity and Referential integrity

(b) Schema and Subschema R

(c) CREATE VIEW and ALTER VIEW

(d) DML and DDL

(e) CURSOR and TRIGGERS

(f) GROUP BY and ORDER BY

(Turn Over)

MSA-300/75

( 2 )

- In a relational data model, the columns of a table are called:
- (i) columns
  - (ii) attributes
  - (iii) records
  - (iv) entity
- In an E-R diagram, the entities are represented by
- (i) a rectangular box
  - (ii) an ellipse
  - (iii) a square
  - (iv) a triangle
- An attribute composed of multiple components each with an independent existence is called a
- (i) derived attribute
  - (ii) simple attribute
  - (iii) multivalued attribute
  - (iv) composite attribute
- The participation constraint can be
- (i) Total
  - (ii) Partial
  - (iii) both
  - (iv) none of these

( 3 )

- The Join operation is a
- (i) binary operation
  - (ii) ternary operation
  - (iii) unary operation
  - (iv) None of the above
- Operation used to select a subset of the tuples from a relation that satisfies a selection criteria
- (i) Project
  - (ii) Select
  - (iii) Cartesian
  - (iv) Join
- Every Boyce-Codd Normal Form (BCNF) is in
- (i) First Normal Form (1NF)
  - (ii) Second Normal Form (2NF)
  - (iii) Third Normal Form (3NF)
  - (iv) None of the above

— 300/75

( 6 )

SECTION

5. Explain any three functions

- (a) SUBSTR (with explanation)
- (b) REPLACE (with explanation)
- (c) TO\_DATE
- (d) COUNT
- (e) Equi Join
- (f) NVL

6. Consider the following tables :

EMP (emp\_no, name, salary,  
supervisor\_no, sex\_code, dept\_code)  
DEPT (dept\_code, dept\_name)

Now, write down queries in SQL for getting  
following informations :

- (a) Names of employees and their  
supervisor if they are of opposite sex.
- (b) Employees getting more salary than  
their supervisor.
- (c) Department name and total number of  
employees in each department who earn  
more than average salary for their  
department.
- (d) Department(s) having maximum  
employees earning more than Rs 2,500.
- (e) Name of employee(s) who earn  
maximum salary in the organization.

1x5=5

2x3=6  
Answer any four questions

✓ What do you mean by data model?  
Explain Network and Relational model

✓ What is data dictionary? Describe meta-data  
with reference to DB

✓ Describe transaction management and  
concurrency control for RDBMS.

✓ Explain the function of ROLLBACK and  
COMMIT with example.

✓ What are TRIGGERS? Describe the use  
of Database Triggers.

✓ What is Deadlock in concurrent  
database access? Explain Deadlock  
handling methods.

✓ What are the advantages of using PL  
SQL? Explain with example.

✓ What are the duties and responsibilities  
of a DBA for an enterprise database  
management?

BCA-IX-Part-III

SA-300/75