



**PGDCA-EXAMINATION, 2010**  
**Introduction to IT and PC Productivity Tools**  
**Time allowed : Three Hours**  
**Maximum Marks : 80**

**Part-A** **{Marks:10}**

*Answer all ten questions (20 words each). Each question carries equal marks.*

**Part-B** **{Marks:10}**

*Answer all five questions (50 words each). Each question carries equal marks.*

**Part-C** **{Marks:60}**

*Answer three questions (400 words each). Each question carries equal marks.*

**Part-A**

1. Define the term byte. What is the difference between a bit and byte?
2. Convert the  $2AC_{16}$  to their binary equivalent.
3. Subtract  $1111_2$  from  $1100_2$  using compliment method.
4. Construct logic circuit diagram for  $A.B' + A.B$  using AND/OR/NOT gates.
5. What factors determine the storage capacity of disks?
6. What is a printer? What are the three types of printers?
7. What is a trackball? Give some typical uses of trackball.
8. What is a K-Map?
9. How many types of tabs available in MS-Word? Give name and symbol for each.
10. Explain different type of slide view available in MS-PowerPoint.

**Part-B**

11. Give the full form of the following abbreviations used in computer terminology.  
IBM, ENIAC, EDVAC, EDSAC, UNIVAC, SSI, VLSI, MSI, DIPS
12. Explain how information is recorded on a magnetic tape?
13. Write short notes on:
  - (i) Letter quality printer
  - (ii) Dot matrix printer
14. Explain the use and advantage of frames in MS-Word.
15. Explain fill command of MS-Excel.

**Star Infotech College**

Anasagar Link Road, Ajmer 305001 Ph:2425579 Website [www.starinfotechcollege.com](http://www.starinfotechcollege.com)

**Part-C**

16. What is characteristics and different ways of classification of a digital computer?

**OR**

Explain different hard copy devices in detail.

17. What is secondary storage? Distinguish between a sequential access, a direct access and a random access device. Give one example of each.

**OR**

Explain format cells command of MS-Excel with necessary diagram.

18. What is word processor? Explain different features of MS-Word which make it good text editor.

**OR**

What is a presentation? How it is useful in different fields? Give advantage of using presentation.





**PGDCA-EXAMINATION, 2010  
PROGRAMMING WITH C**

**Time allowed : Three Hours**

**Maximum Marks : 80**

**Part-A**

**{Marks:10}**

*Answer all ten questions (20 words each). Each question carries equal marks.*

**Part-B**

**{Marks:10}**

*Answer all five questions (50 words each). Each question carries equal marks.*

**Part-C**

**{Marks:60}**

*Answer three questions (400 words each). Each question carries equal marks.*

**Part-A**

1. What is the error in the following statement :
  - (i) `scanf(\n "%f", root);`
  - (ii) `*ptr=(int*) malloc (m,sie of(int));`
2. What is pointer ?
3. State whether each of following statements is true or false:
  - (i) An integer can be added to a pointer.
  - (ii) Value of a local variable in a function can be changed by another function.
  - (iii) One 'if' can have more than one 'else' clause.
  - (iv) Every function should have a 'return' statement.
4. Define constant.
5. Give syntax for the 'for' statement.
6. Give definition of Dynamic memory allocation.
7. Give definition of Recursion.
8. Give one example of gets().
9. Give one example of fscanf().
10. Which loop is also known as 'Entry Control Loop'. Why?

**Part-B**

11. Distinguish between the following:

**Star Infotech College**

Anasagar Link Road, Ajmer 305001 Ph:2425579 Website [www.starinfotechcollege.com](http://www.starinfotechcollege.com)



- (i) Automatic and Static variable
  - (ii) Actual and formal parameter
12. What is meant by the following term:
- (i) Nested structure
  - (ii) Array of structure
13. Write a program to calculate the factorial of an integer quantity recursively?
14. Write a program in 'C' to display following:

```
*
* *
* * *
* * * *
* * * * *
* * * *
* * *
* *
*
```

15. Give short notes on:
- (i) postfix
  - (ii) prefix with example
16. What is d-queue ? explain with algorithm.

**OR**

Write a program to insert a node at the end of the list ?

17. Give difference between the following :
- (i) Array and Linked List
  - (ii) While and DO-While
  - (iii) User define function and Pre-define function
  - (iv) Primary data types and Derived data types

**OR**

What is Array? Write a program to accept value in matrix 3 x 3 and check given matrix is a unit matrix or not.

18. Define a structure called cricket that will describe the following information :

Player name

Team name



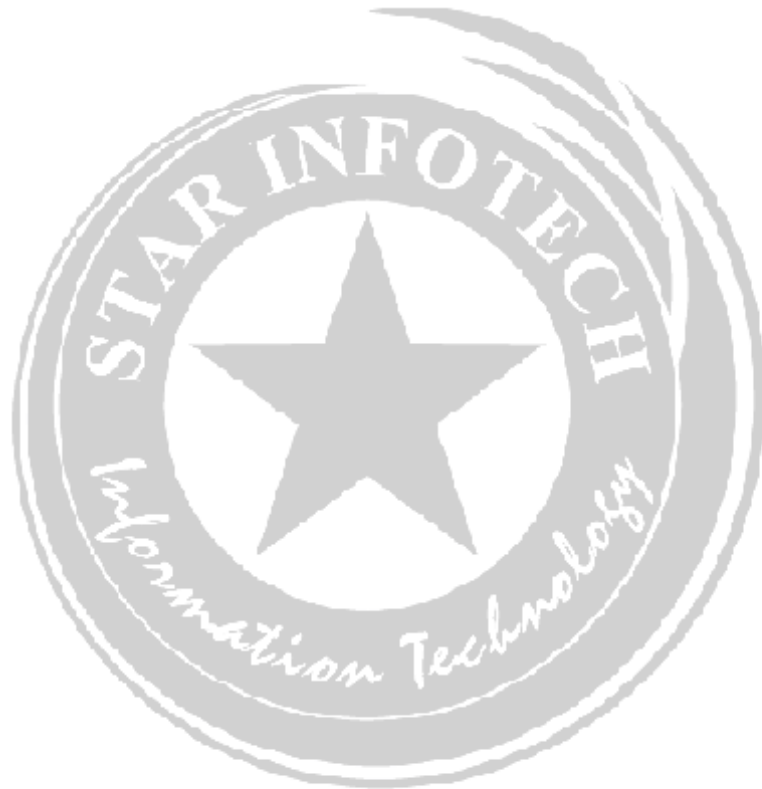
### Batting average

Using cricket, declare an array player with 10 elements and write a program to read the information about all the 10 players and print a team-wise list containing names of players with their batting average.

**OR**

Distinguish between the following:

- (i) getc and getchar
- (ii) printf and fprintf
- (iii) feof and ferror





**PGDCA-EXAMINATION, 2010**  
**Programming in Visual Basic**  
**Time allowed : Three Hours**  
**Maximum Marks : 80**

**Part-A** {Marks:10}

*Answer all ten questions (20 words each). Each question carries equal marks.*

**Part-B** {Marks:10}

*Answer all five questions (50 words each). Each question carries equal marks.*

**Part-C** {Marks:60}

*Answer three questions (400 words each). Each question carries equal marks.*

**Part-A**

1. What is User Interface ?
2. What do you mean by object oriented programming ?
3. What do you understand by editor ?
4. What is the relationship of properties, methods and events ?
5. What is ADO ?
6. What are library functions ? How are they useful ?
7. When do get focus and lost focus events occur ?
8. How is a do while loop different from a do until loop ?
9. What is debug window ? What for it is used?
10. What is the difference between enabled property and visible property of a menu control ?

**Part-B**

11. What do you understand by the scope of a variable ?
12. List out the various drag and drop operations.
13. Differentiate between a procedure and a function procedure.
14. What are container or container controls ?
15. When and how is information placed inside a list box ?

**Part-C**

16. (a) What are the various ports of the design state of the VB, IDE, ? Explain.
- (b) Write down the characteristics and features of Visual Basic.

**OR**

**Star Infotech College**

Anasagar Link Road, Ajmer 305001 Ph:2425579 Website [www.starinfotechcollege.com](http://www.starinfotechcollege.com)



- (a) What do you mean by event driven programming ? How Does it differ from traditional programming ?
- (b) Describe how you attach code to an object.
17. (a) What are Dynamic forms ? How can you build a dynamic form ? Illustrate with example.
- (b) What do you mean by SDI and MDI ? Write the difference between SDI and MDI.

**OR**

Write a program to update database with the help of VB form. The form contains the name of employee, his date of birth, total pay, total deduction and his home address.

18. Explain the following in brief :

- (i) Customizing the Toolbars
- (ii) Generating timed events
- (iii) Coordinate systems and graphics methods.
- (iv) Manipulating colors and pixels with VB.

**OR**

- (a) Explain different data access tools to access database in Visual Basic.
- (b) Explain the following with example :
  - i. Combo box
  - ii. Check box control
  - iii. Text box
  - iv. Project Window



**PGDCA-EXAMINATION, 2010**  
**Electronic Data Processing**  
**Time allowed : Three Hours**  
**Maximum Marks : 80**

**Part-A** {Marks:10}

*Answer all ten questions (20 words each). Each question carries equal marks.*

**Part-B** {Marks:10}

*Answer all five questions (50 words each). Each question carries equal marks.*

**Part-C** {Marks:60}

*Answer three questions (400 words each). Each question carries equal marks.*

**Part-A**

1. Write syntax for any two SET commands. Also write the uses of these commands.
2. What is data manipulation language?
3. What is the use of ZAP command?
4. What is data Abstraction?
5. What is quick report?
6. What is Existence Dependencies?
7. Write the commands for removing field heading?
8. Define instance and schema.
9. What is difference between Find and Seek command?
10. Write the denote symbols for Select, Project, Rename, Set Intersection in Relational Algebra.

**Part-B**

11. What are anomalies in database ?
12. What are Relational Constraint ?
13. What is Memo field ? Explain how to use it.
14. What are the characteristics of centralized and client-server DBMS ?
15. Describe how to set filters in foxpro ?

**Part-C**

16. What is normal form? Explain different normal form upto BCNF?





**OR**

What is array ? Write down the difference between an Array and Memory variable in Foxpro. Write Command how to use Array in Foxpro.

17. What is E-R Model ? Explain different components of it. Write an E-R diagram for a banking enterprise.

**OR**

What is the difference between indexing and sorting? Explain different types of index file example.

18. What do you mean by DBMS ? Write various characteristics and limitations of DBMS. Explain database system architecture ?

**OR**

XYZ Electronics Company sells various electronic items, such as TV, VCR, Radio, Calculator. They maintain sales file with fields:

Product, Brand and Quantity Sold, Write the steps for creating this table. The manager wants a product wise report. Write what are the commands used to generate the required report in Foxpro.





**PGDCA-EXAMINATION, 2010**  
**Advance Database Management System**  
**Time allowed : Three Hours**  
**Maximum Marks : 80**

**Part-A** {Marks:10}

*Answer all ten questions (20 words each). Each question carries equal marks.*

**Part-B** {Marks:10}

*Answer all five questions (50 words each). Each question carries equal marks.*

**Part-C** {Marks:60}

*Answer three questions (400 words each). Each question carries equal marks.*

**Part-A**

1. Define Generalization.
2. Name different multilevel files.
3. Define Replication
4. What do you understand by Data Mining?
5. T1  
read(A)  
A:=A-50

T2  
read(A)  
temp:=A\*0.1  
A:=A-temp  
write(A)  
read(B)

write(A)  
read(B)  
B:=B+50  
Write(B)

B:=B+temp  
write(B)

**Star Infotech College**

Anasagar Link Road, Ajmer 305001 Ph:2425579 Website [www.starinfotechcollege.com](http://www.starinfotechcollege.com)



write the above in which schedule serial or non-serial.

6. Define different layers of Data-Warehousing.
7. Write the types of error which may cause a transaction to fail.
8. write different XML Applications.
9. Explain different states of Transaction.
10. Write different failure types that distributed system suffer from.

### Part-B

11. What do you understand by concurrency control ? Write various modes in which a data item may be locked ?
12. Explain Object Oriented Modeling. Define encapsulation.
13. Write the structure of XML Data.
14. Give the DTD for an XML representation of the following nested relational schema:  
 Emp=(ename, children set of (children), skillsset set of (skills))  
 Children = (name, Birthday)  
 Birthday=(day, month, year)  
 Skills=(type, examsset set of (exams))  
 Exams= (year, city)
15. Explain different set operation.

### Part-C

16. (a) What are the advantages of object-oriented database approach for database management ?  
 (b) What is an object identifier? Explain with an example. What are advantages and disadvantages?

OR

17. Differentiate the following :
  - a. Objects and attributes
  - b. Methods and messages
  - c. Classes, subclasses and superclasses
  - d. Ownership and reference semantics
  - e. Structured and unstructured Complex object

**Star Infotech College**

Anasagar Link Road, Ajmer 305001 Ph:2425579 Website [www.starinfotechcollege.com](http://www.starinfotechcollege.com)



18. What is need of Recovery ? Explain various recovery techniques used in Distributed Database System.

**OR**

19. Explain the steps in query processing. What are the different measures of query cost ? Explain distributed query processing.

**OR**

20. Let relation  $r_1(A,B,C)$  and  $r_2(C,D,E)$  have the following properties :  $r_1$  has 20,000 tuples  $r_2$  has 45,000 tuples, 25 tuples of  $r_1$  fit on one block and 30 tuples of  $r_2$  fit on one block. Estimate the number of block transfers and seeks required using each of the following join strategies for  $r_1 \times r_2$  :

- i. Nested- loop join
- ii. Block nested loop join
- iii. Merge join
- iv. Hash join

21. Consider the following two transactions :

T1:     read(A);  
           read(B);  
           if  $A = 0$  then  $B := B + 1$ ;  
           write(B)

T2:     read(B);  
           read(A);  
           if  $B = 0$  then  $A := A + 1$ ;  
           write(A)

Let the consistency requirements be  $A=0 \vee B=0$ , with  $A=B=0$  the initial values:

- i. Show that every serial execution involving these two transactions preserves the consistency of the database.
- ii. Show a concurrent execution of T1 and T2 that produces a non-serializable schedule.
- iii. Is there a concurrent execution of T1 and T2 that produces a serializable schedule?



**PGDCA-EXAMINATION, 2010**  
**Programming in RDBMS**  
**Time allowed : Three Hours**  
**Maximum Marks : 80**

**Part-A** {Marks:10}

*Answer all ten questions (20 words each). Each question carries equal marks.*

**Part-B** {Marks:10}

*Answer all five questions (50 words each). Each question carries equal marks.*

**Part-C** {Marks:60}

*Answer three questions (400 words each). Each question carries equal marks.*

**Part-A**

1. Set Operation.
2. Join Operation
3. “Trigger”, Define the term.
4. “Views”, Define the term.
5. Write syntax for insert query.
6. Write use of LIKE.
7. What is varchar2 ?
8. Define procedure
9. What is Data Validation ?
10. define Integrity

**Part-B**

11. Explain security of database.
12. explain various use and type of database Triggers.
13. Explain IMS logical database.
14. Write various data types in SQL.
15. What structure operations for decision making in RPG/400.

**Part-C**

16. Explain with example :
  - i. DDL
  - ii. DML
  - iii. Constraints

**Star Infotech College**

Anasagar Link Road, Ajmer 305001 Ph:2425579 Website [www.starinfotechcollege.com](http://www.starinfotechcollege.com)



iv. Operators

**OR**

- (b) What is Handling in PL/SQL ?
- (c) Explain functions and procedure in PL/SQL.

17. What do you mean by creating and dropping a Trigger ? Explain with a suitable example.

**OR**

- (a) Explain Before vs After Trigger
- (b) DB2 Architecture

18. (a) Defining and manipulating database in DB2. Explain.

(b) Define IMS architecture.

**OR**

- (a) Explain various arithmetic function in RPG/400.
- (b) Explain looping control in RPG/400





**PGDCA-EXAMINATION, 2010**  
**Operating System**  
**Time allowed : Three Hours**  
**Maximum Marks : 80**

**Part-A** **{Marks:10}**

*Answer all ten questions (20 words each). Each question carries equal marks.*

**Part-B** **{Marks:10}**

*Answer all five questions (50 words each). Each question carries equal marks.*

**Part-C** **{Marks:60}**

*Answer three questions (400 words each). Each question carries equal marks.*

**Part-A**

1. What is batch processing ?
2. Define Operating System
3. Write full form of PCB
4. State any one merit of Round-Robin Scheduling.
5. What is memory fragmentation ?
6. State full form of TLB.
7. State different conditions for deadlock.
8. What do you understand by virtual memory ?
9. Define the term 'device drivers'.
10. Name any two filter commands of LINUX.

**Part-B**

Differentiate between :

11. Process and Program.
12. Multitasking and multiprogramming O.S.
13. Physical address and Logical address.
14. Local variable and Global variable of LINUX.
15. Throughput time and Turnaround time.

**Part-C**

16. What do you understand by O.S. ? Explain the following terms associated with it:
  - (a) Distributed OS
  - (b) Time sharing

**Star Infotech College**

Anasagar Link Road, Ajmer 305001 Ph:2425579 Website [www.starinfotechcollege.com](http://www.starinfotechcollege.com)



- (c) System Calls
- (d) Layered Approach

**OR**

- (a) Explain different stages or states of process.
- (b) Explain any five pieces of information contained by PCB.

17. What is process scheduling ? Explain different non-preemptive and preemptive scheduling algorithms.

**OR**

Describe various page replacement techniques with suitable example.

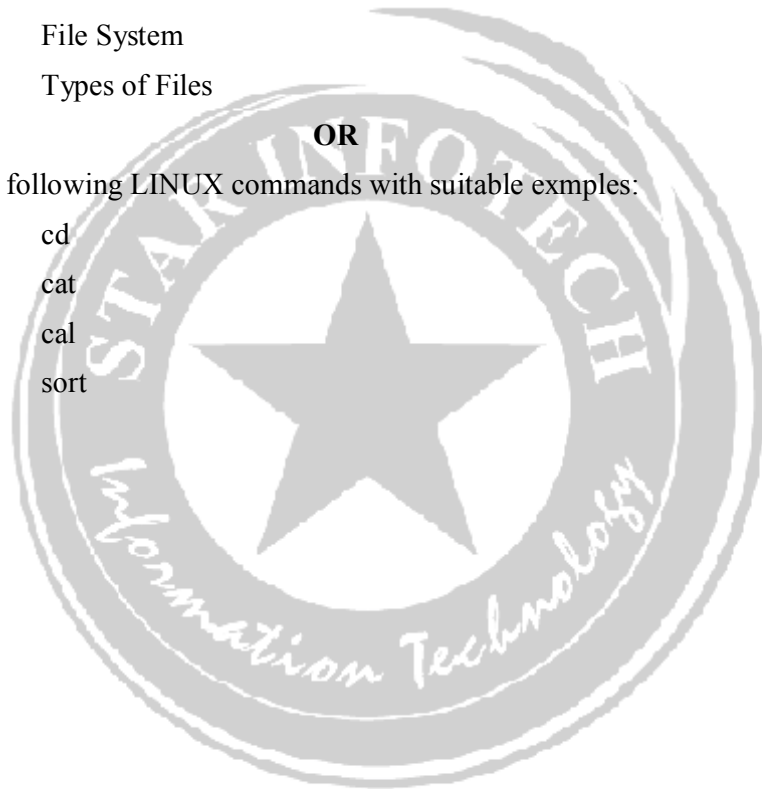
18. Explain the following terms related with LINUX OS:

- (i) Architecture
- (ii) File System
- (iii) Types of Files

**OR**

Explain the following LINUX commands with suitable examples:

- (i) cd
- (ii) cat
- (iii) cal
- (iv) sort







## PGDCA-EXAMINATION, 2010

### JAVA

**Time allowed : Three Hours**

**Maximum Marks : 80**

#### **Part-A**

**{Marks:10}**

*Answer all ten questions (20 words each). Each question carries equal marks.*

#### **Part-B**

**{Marks:10}**

*Answer all five questions (50 words each). Each question carries equal marks.*

#### **Part-C**

**{Marks:60}**

*Answer three questions (400 words each). Each question carries equal marks.*

#### **Part-A**

1. What is Class?
2. What is an object ?
3. How many types of constructors are in Java ?
4. What is Java Portability ?
5. What is Exception ?
6. What is Interface ?
7. What is string literals ?
8. What is JDK ?
9. What is utility package?
10. What is an Applet ?

#### **Part-B**

11. Explain the following ?
  - (i) Final Variables.
  - (ii) Final methods.
12. Explain visibility of fields in a class.
13. What is static member? Give example.
14. What is Java API package and user-defined package ?
15. Explain the following exception:
  - (i) Arithmetic exception
  - (ii) Security exception
  - (iii) Null pointer exception

**Star Infotech College**

Anasagar Link Road, Ajmer 305001 Ph:2425579 Website [www.starinfotechcollege.com](http://www.starinfotechcollege.com)

**Part-C**

Explain the features of Java? Give brief information about fundamental class.

**OR**

Write a program to check whether a given no. is Armstrong number or not through constructor?

16. What is an Interface? Explain different forms of Interface implementation with example.

**OR**

What is difference between string and string buffer. Write a program to check whether a given string is palindrome or not through string buffer class?

17. Explain the following with function and suitable example :

- (v) Exception handling
- (vi) Multithreading programming

**OR**

What is the difference between Local and Remote Applet ? Write a program to take two integer value by text box and display average of them in another text box with suitable labels and HTML format.

