



B.Sc (Information Technology) (Part-I)
EXAMINATION, 2008

(C-Programming)

Fourth Paper

B.Sc. I.T.-06

Time allowed : Three Hours

Maximum Marks : 50

*Attempt any **five** questions. All questions carry equal marks.*

1. (a) Elaborate the following operators in C language with exemplary use of each:
 - (i) Arithmetic operators.
 - (ii) Relational operators
 - (iii) Logical operators. 5
- (b) Discuss all basic data types available in C Language with an example 5
2. (a) Define recursion. Is recursion better than loop? Explain. 5
- (b) “Recursion may provide no saving in memory space.” Explain. 5
3. What is a function? What is the difference between a function and a macro? Find the largest number among two numbers using a function definition as well as a macro. Which is more efficient in terms of execution time and code size? 10
4. Write a program in C Language to find the G.C.D.(HCF) of the two given numbers:
 - (i) With Recursion 5
 - (ii) Without using Recursion 5
5. Differentiate between:
 - (i) Structure and Union 5
 - (ii) Pointers and Array 5
6. (a) Is the following statement a declaration/definition?

Find what does it mean?
`Int(*X)[10];` 5
- (b) Predict and explain the output or error (s) for the following:
`void main()
{
 int const *p=5;`

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- ```

printf(“%d”,++(*p));
}

```
7. (a) Explain “Call-by-Value” and “Call-by-Reference” with example. 5
- (b) Explain with example all iteration statements available in Java. 5
8. (a) Write a program in “C” to find and display the minimum and maximum values of an array of integers.(Note: You should use ‘pointers’ concept only).5
- (b) Write a program in “C” to perform multiplication of two matrices A and B. 5
9. (a) Write the syntax and explain the purpose of the following functions.:
- (i) Fseek()
  - (ii) Fclose()
  - (iii) Fprintf()
- (b) Write a program to count the number of characters in a given file. 5
10. (a) Summarize the purpose of the format strings(like %s, %d%c) that are commonly used within the printf function, with an example for each. 5
- (b) Predict and explain the output or error for the following:
- ```

main()
{
char *p;
printf(“%d%d”,sizeof(*p),sizeof(p));
}

```
- 5



B.Sc (Information Technology) (Part-I)
EXAMINATION, 2008
DATABASE MANAGEMENT SYSTEMS

Sixth Paper
 B.Sc. I.T.-06

Time allowed : Three Hours
 Maximum Marks : 50

*Attempt any **five** questions. All questions carry equal marks.*

1. What is DBMS? Explain in detail. Also discuss the data abstraction. 10
2. (a) Who is the Database administrator. What are his responsibilities?
 (b) What do you mean by a database model? 10
3. (a) Differentiate clearly between privacy, security, correctness and integrity of a database.
 (b) Explain the concept of the two phase locking and show that it guarantees serialisability. 10
4. (a) What is an access Matrix? What type of entry it holds?
 (b) What is aggregation? Explain it with a suitable example. 10
5. (a) Differentiate between various searching commands available in FoxPro.
 (b) What is the difference between Display All and List Commands Output. 10
6. (a) Write down the functions available in FoxPro that return:
 - (i) The correct time.
 - (ii) Name of the month from a date expression
 - (iii) Day of week from a date expression.
 - (iv) Length of a character expression
 - (v) Extract the sub-string from a string.
- (b) Explain the following FoxPro Commands with examples:
 - (i) Cancel
 - (ii) Accept
 - (iii) Index
 - (iv) Copy structure
 - (v) Input. 10



7. (a) What is User Define Function? Write down the difference between a procedure and function.
- (b) Explain the following set commands:
- (i) Set Index To
 - (ii) Set Order To
 - (iii) Set Filter To
 - (iv) Set Talk Off
 - (v) Set Status
- 10
8. Write a program in FoxPro to calculate Income Tax on a given income as per the following rules:
- (i) if the income is less than or equal to Rs. 50,000, then no tax is to be paid.
 - (ii) If the income is more than Rs. 50,000 and less than or equal to Rs. 90,000 then tax rate is 8% on the income exceeding Rs. 50,000.
 - (iii) If the income is more than Rs. 90,000 and less than or equal to Rs. 1,50,000 then tax rate is 15% on the income exceeding Rs. 90,000.
 - (iv) If the income is more than Rs. 1,50,000 then tax rate is 20% on the income exceeding Rs. 1,50,000.
- 10
9. Write a FoxPro Program which takes an amount as input and return the minimum number of different currency note to pay the amount (The note values are: 1,2,5,10, 20, 50, 100, 500 and 1000).
- 10
10. Write short notes on the following:
- (i) Loop construct in Foxpro
 - (ii) Prompt command
 - (iii) DML and DDL
 - (iv) E-R Diagram
 - (v) Candidate and Foreign key
- 10



**B.Sc (Information Technology) (Part-I)
EXAMINATION, 2008**

DATA STRUCTURE AND ALGORITHM

Fifth Paper

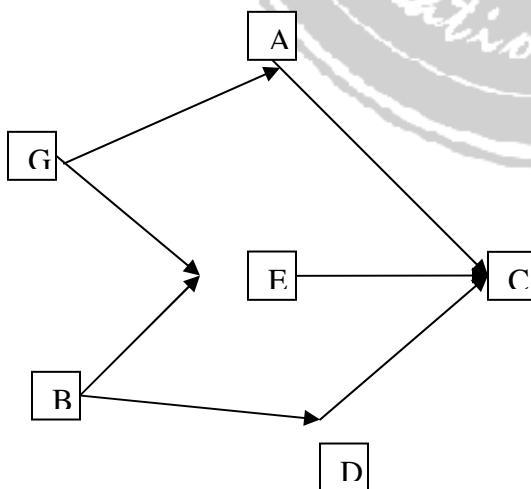
B.Sc. I.T.-05

Time allowed : Three Hours

Maximum Marks : 50

Attempt any five questions. All questions carry equal marks.

1. (a) What is time and space complexity of algorithms? Explain with example.
(b) What is stack? Write the insertion and deletion algorithm in stack.
2. Write short notes on :
(a) Header tree
(b) D-queue
(c) Circular linked list
(d) Recursive function.
3. Explain the Insertion sort and Binary search with example.
4. Explain file structure with the sequential organization of a file.
5. Convert the following:
(i) $(A+B \uparrow D)/(E-F)+G$ to prefix and postfix
(ii) $A*(B+D)/E-F+(G+H/K)$ to prefix and postfix.
6. What are graphs? Give DFE,PFS of the following graphs:

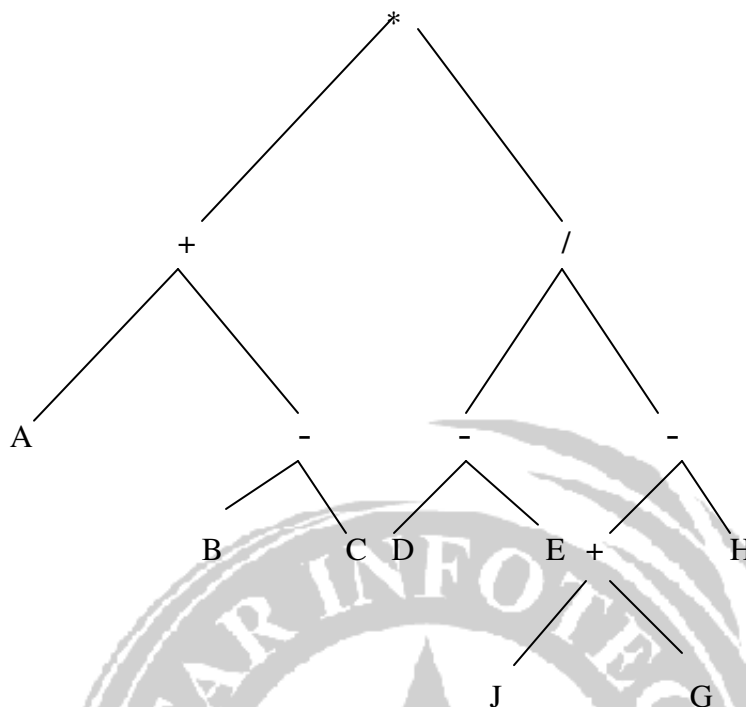


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7. Write the inorder, preorder and postorder of given tree. Write algorithm of preorder



8. What are spanning trees? Explain Kruskal algorithm with example.

**B.Sc (Information Technology) (Part-I)
EXAMINATION, 2008
FOUNDATION COURSE IN I.T.**

Second Paper

B.Sc. I.T.-02

Time allowed : Three Hours

Maximum Marks : 50

Attempt any five questions. All questions carry equal marks.

1. Describe the following :

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- (a) What do you mean by classifications of computer? Describe on the basis of size
- (b) What is the main difference in characteristics between the first and second generation?
2. Describe the following :
- (a) What is an output device? Define the on-line and off-line devices? Explain any
- (b) Describe the BCR and OMR 5+5
3. Describe the following :
- (a) What are the differences between Impact printer and Non-impact printer? Exp
- (b) What are the differences between thermal transfer printer and bar code printer? 5+5
4. Describe the following :
- (a) What are the differences between TFT, PLASMA and LCD Monitor?
- (b) What do you mean by ROM and RAM? Explain the types of Rom. 5+5
5. Describe the following :
- (a) What is a serial access memory?
- (b) What are the differences between Cache Memory, virtual memory and flash mem
6. Describe the following :
- (a) What do you mean by number system? Explain it.
- (b) Convert the hexadecimal to decimal number system:
- (i) $(B2)_{16} = (?)_{10}$
- (ii) $(F2F)_{16} = (?)_{10}$
- (iii) $(2E)_{16} = (?)_{10}$
- (iv) $(15A)_{16} = (?)_{10}$
- (v) $(ABC)_{16} = (?)_{10}$ 5+5
7. Describe the following :
- (a) What do you mean by virus? Explain any three.
- (b) How can we protect our computer from virus? Describe the tools to remove virus? 5+5



8. Describe the following :
- (a) What are the applications of computer? Explain any three.
- (b) Differentiate between shareware and freeware with examples. 5+5
9. Describe the following :
- (a) What are the differences and similarities between TCP/IP and OSI?
- (b) What is Internet? Explain the advantages and disadvantages of internet. 5+5
10. Describe the following:
- (a) What do you mean by data warehouse? Explain its components.
- (b) Write short notes on:
 (i) URL
 (ii) DOMAIN NAME
 (iii) HTTP. 5+5

**B.Sc. I.T. (Part-I) EXAMINATION, 2008
 COMPUTING LOGICS AND REASONING**

First Paper
 (B.Sc. IT-01)

Time allowed : Three Hours

Maximum Marks : 50

Attempt five question in all , All questions carry equal marks.

1. What is logical equivalence and prove the following:

$$(p \rightarrow q) \wedge (p \rightarrow r) \equiv (p \rightarrow (q \vee r))$$

$$(p \rightarrow r) \wedge (q \rightarrow r) \equiv (p \wedge q) \rightarrow r$$

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$$(p \rightarrow q) \wedge (p \wedge r) \equiv p \rightarrow q \wedge r$$

2. $f(x)=x+2, g(x) = x-2, b(x) = 3x$

find:

- (i) gof
- (ii) fog
- (iii) gog
- (iv) fohog
- (v) hog

3. Define De Morgan's laws and prove it.

4. Prove the following :

- (i) $(A-B)-C=(A-C)-(B-C)$
- (ii) $(A-B) \oplus (A-C) = \emptyset$

5. Define the following:

set, subset, power set, relation, function.

What is the difference between relation and function?

6. Define :

- (i) Digraph
- (ii) Well order set
- (iii) Poset
- (iv) Matrix representation.

7. Show that :

- $(P \wedge Q) \wedge (r \wedge s) \rightarrow p$ is tautology
- $(P \rightarrow (q \vee \sim r))$ is a contingent.

8. Construct the truth table of :

$$P \rightarrow \{(q \vee r) \wedge \sim(p \leftrightarrow \sim r)\}$$

9. Define :

- (i) Upper bound
- (ii) Lower bound
- (iii) Greatest lower bound
- (iv) Least upper bound.



B.Sc (Information Technology) (Part-I)
EXAMINATION, 2008
OFFICE AUTOMATION PC SOFTWARE
Third Paper (B.Sc. IT-03)
Time Allowed : Three Hours
Maximum Marks : 50

Attempt five question in all. All questions carry equal marks.

1. (a) Define turn off Computer. 2
- (b) What is task bar? Describe how to use and configure the task and its tool bar. 8
2. (a) What is a user interface? Differentiate between CUI and GUI.

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- (b) Explain system tools of Window 98.
- (c) Write a short note on Recycle bin. 4+3+3
3. (a) Explain Templates and Add-ins features present in tools menu. 4
- (b) How is print to file option useful? 3
- (c) Write a short note on Bookmark. 3
4. (a) Why MS-Word is called a word processor? Explain various formatting features of MS-Word. 2+4
- (b) Write a short note on Drop Cap. 2
- (c) Write the importance of find and replace. 2
5. (a) What is data fill? How can you fill data in series? 4
- (b) What is a macro? How can it be recorded and executed? 6
6. (a) Explain the various addressing modes supported in MS-Excel that can be used in the formulae. 4
- (b) Explain the following functions with example:
 (i) ROUND()
 (ii) CLEAN()
 (iii) MODE()
 (iv) MOD() 1^{1/2}*4
7. (a) Explain various views of PowerPoint? 8
- (b) Write a short note on OLE. 2
8. Write short notes on:
 (a) Custom Animation
 (b) Action button
 (c) Organization chart
 (d) Set up show
 (e) Rehearse timings. 2*5
9. (a) Explain different data types used in MS-Access.
- (b) Write short notes on :
 (i) IME mode



- (ii) Input mask.
- (iii) IME sentence mode
- (iv) Validation rules.

1^{1/2}*4

10. (a) Define various methods to create a table in MS-Access.

6

(b) Explain design view of a query.

4

