From unit-1, read all the algorithms that we have discussed in the class along with tracing of the algorithms.

List of Important Topics and sample questions for PSUC End Examinations

Basics,   Data types, operators and Control statements

Part-1
1) Basic Structure of a C Program
2) Flowchart and Symbols used in flowchart
3) Program Development steps.
4) Basic Data Types and their sizes
5) Operators and types of Operators. (Logical ,Increment and Decrement , Bitwise operators are Most Important)
6) Define Type Conversion and types of Type conversions with example

Sample Questions
1) Draw a flowchart to print the greatest or largest of 3 numbers
2) draw a flowchart to print the roots of a quadratic equation
3) draw a flowchart to check a given number is even or ODD
4) Draw a flowchart to swap 2 numbers
5) Draw a flowchart to print numbers from 1 to n

part-2
1) Define Conditional control statement or Selection Control statements ?Explain all conditional control statements(i.e Simple IF,if-else,Nested If-else,else-if Ladder,Switch Case)
2) Define Un conditional Control statement and Explain types of Unconditional Control statements?(i.e   goto, break, continue)
3) Define Iterative or Looping Control Statement? Explain all types of Looping Control statements.

Note:
1) In part -2 of Unit-1 they may ask u any specific or all types of Control statements .
2) They may also ask programs .

Sample Questions
1) Discuss Nested If-else ladder with an example?
2) explain how do- while is used with an example?
3) write a C program to print the sum of all the digits of a given number ?
4) write a c Program to find the gcd of 2 numbers ?
5) write a c Program to print the even numbers from 1 to n
6) Write a c program to calculate the grade obtained by a student?
7) Program to find the roots of a quadratic equation
8) program to find the factorial of a given number
9) program to check whether a given number is prime or not
10) To check whether a given number is amstrong or not.
11) Differentiate While and Do-While statements
12) Write a C program to check whether the given year is leap year or not.

Functions

1) Define Function? What are the advantages of function?
2) Discuss the type of functions?(user defined and predefined)
3) Discuss any 2 categories of function with an example(function with argument and with return type, function with argument and without return type)
4) Define storage Class? explain all the storage classes ?
5) Explain about Call-by Value parameter passing technique? program to swap 2 numbers using call by value?
6) Define Recursive Function? explain with an example
7) write a c program to find the sum of all the digits using function?
8) write a c program to find the sum of even numbers from 1 to n using functions?
9) Discuss any 4 predefined functions with an example?
10) write a c program to find the factorial of a given number using non recursive function?
11) write a c program to find factorial of a given number using recursive function?
12) write a c program to find GCD of 2 numbers using non- recursive function?
13) write a c program to find GCD of 2 numbers using recursive function?

Note: This is the smallest unit out of all the units.

Arrays, Strings and Preprocessor Directives
1) Define Array? explain types of arrays and how they are declared ,initialized with an example?
2) Define String? How string is declared and initialized with an example?
3) Explain any 5 string handling functions with examples?
4) Define Preprocessor Directive? explain any 3 preprocessor directives?
Sample programs
1) Write a c program to check whether the given string is palindrome or not?
2) Program to add 2 matrices
3) program to multiply 2 matrices
4) program to find the transpose of a matrix
5) Program to subtract 2 matrices?(similar to addition only)
6) program to print all the elements of an array in reverse order?
7) program to print the odd numbers in the given array?
8) program to find the sum of all even numbers in the array?
9) program to concatenate 2 strings?
10) program to find the largest number in the array?
11) explain about #define and #include preprocessor directive

Pointers

1) Define Pointer? How it is declared and Initialized with an example?
2) Define pointer to pointer? explain with an example
3) what are the different possible arithmetic operations carried out on pointers(i.e addresses)? List out them
4) what is meant by Dynamic Memory allocation function? explain any 2 dynamic memory allocation functions with example statements(i.e malloc ,calloc ,free,realloc)
5) Write a C program to swap 2 numbers using call by reference
6) Discuss about generic or Void pointer?
7) Discuss about pointer to an array with an example?
8) Explain about function returning pointer?

Structure and Files

part-1
1) Define Structure? How to define it,How to declare a structure variable,how to initialize and access the structure members?

2) Define Union? How to define it,How to declare a Union variable?
3) How to pass an entire Structure to a function?explain
4) Write any 5 differences between structure and union?
5) Define Self-Referential Structure?
6) Discuss about structure with in a structure or nested structure.
7) Discuss about array of structures?

part-2 Files
1) Define File? Explain what are the operations carried out on files?
2) Explain any 5 file handling functions with example statements
3) write a c program to read the contents of a file and display contents on the screen?
4) Write a C program to add 2 numbers using command line arguments?
5) Write a C Program to copy the contents of one file to another file?
6. Write a C Program to copy the contents of one file to another file using command line arguments.
7. Write about fseek, ftell, rewind functions.