

PG DEPARTMENT OF COMMERCE (CA)

QUESTION BANK

COURSE: B.Com (CA)

SEMESTER:V

SUBJECT CODE: 18UCC516

SUBJECT: PROGRAMMING IN C

K1 LEVEL

1. Who is father of C Language?

A) Bjarne Stroustrup B) James A. Gosling **C) Dennis Ritchie** D) Dr. E.F. Cod

2. C Language developed at _____?

A) AT & T's Bell Laboratories of USA in 1972 B) AT & T's Bell Laboratories of USA in 1970

C) Sun Microsystems in 1973 D)Cambridge University in 1972

3. C programs are converted into machine language with the help of

A) An Editor **B) A compiler** C) An operating system D) None of these.

4. C was primarily developed as

A) System programming language B) General purpose language C) Data processing language D) None of the above

5. Which one of the following is not a reserved keyword for C?

A) Auto B) Case **C) Main** D) Default

6. Which one of the following is not a valid identifier?

A) _examveda **B) 1examveda** C) exam_veda D) examveda1.

7. Which is the only function all C programs must contain?

A) `start()` B) `system()` C) **`main()`** D) `printf()`

8. Which of the following is not a correct variable type?

A) `float` B) **`real`** C) `int` D) `double`

9. What is the difference between a declaration and a definition of a variable?

A) Both can occur multiple times, but a declaration must occur first B) A definition occurs once, but a declaration may occur many times C) Both can occur multiple times, but a definition must occur first D) **A declaration occurs once, but a definition may occur many times.**

10. Name the loop that executes at least once.

A) `For` B) `If` C) **`do-while`** D) `while`.

11. An array elements are always stored in _____ memory locations.

A) **Sequential** B) Random C) Sequential and Random D) None of the above.

12. In switch statement each case instance value must be _____

A) **Constant** B) variable C) Special symbol D) None of the above.

13. Which of the following shows the correct hierarchy of arithmetic operations in C

A) `/+*-` B) `*-/+` C) `+/-/` D) **`*/+-`**

14. _____ inherits `get()`, `getline()`, `read()`, `seekg()`, and `tellg()` from `istream`.

a) `conio` b) **`ifstream`** c) `fstream` d) `iostream`

15. What function should be used to free the memory allocated by `calloc()` ?

a) `dealloc()`; b) `malloc(variable_name,0)` c) **`free()`**; d) `memalloc(variable_name, 0)`

16. The _____ is special because its name is the same as the class name.

a) Destructor b) static c) **constructor** d) none

17. The class _____ describes how the class function are implemented

a) **Function definition** b) declaration c) arguments d) none

18. A derived class with only one base class is called _____ inheritance.

a) **Single** b) Multi-level c) Multiple d) Hierarchical

19. The exception handling mechanism is basically built upon _____ keyword

- a) try b) catch c) throw **d) all the above**
20. _____ functions must either be member functions or friend functions.
a) Operator b) User-defined c) Static Member d) Overloading
21. Which is more effective while calling the functions?
a) call by value b) **call by reference** c) call by pointer d) none
22. Where the default values of parameter have to be specified?
a) Function call b) Function definition **c) Function prototype** d) Both B or C
23. Which is more memory efficient?
a) structure b) **union** c) both use same memory d) depends on a programmer
24. _____ is a collection of objects of similar type
a) Objects b) methods **c) classes** d) messages
25. The _____ is an entry-controlled loop
a) while b) do-while c) for d) switch
26. Which of the following function / type of function cannot be overloaded?
a) Member function b) Static function c) **Virtual function** d) Both B and C
27. Which of the following is a two-dimensional array?
a) array anarray[20][20]; b) int anarray[20][20]; c) int array[20, 20]; d) char array[20];
28. Which reference modifier is used to define reference variable?
a) & b) \$ c) # d) none
29. Union differs from structure in the following way
a) All members are used at a time
b) Only one member can be used at a time
c) Union cannot have more members
d) Union initialized all members as structure
30. The ____ functions are used to handle the single character I/O operation.

a) **get() and put()** b) clrscr() and getch() c) cin and cout d) None

31. The wrapping up of data & function into a single unit is known as _____
a) Polymorphism **b) encapsulation** c) functions d) data members

32. _____ statement is frequently used to terminate the loop in the switch case()
a) jump b) goto c) continue **d) break**

33. What will you use if you are not intended to get a return value?
a) static b) const c) volatile **d) void**

34. Where the default values of parameter have to be specified?
a) Function call b) Function definition **c) Function prototype** d) Both B or C

35. Where does the return statement returns the execution of the program?
a) main function b) **caller function** c) same function d) none

36. What does a reference provide?
a) Alternate name for the class **b) Alternate name for the variable** c) Alternate name for the Pointer d) none

37. The changes made in the members of a structure are available in the calling function if
a) pointer to structure is passed as argument b) structure variable is passed
c) the member other then pointer type are passed as argument d) both option a and c

38. For accessing a structure element using a pointer, you must use?
a) Pointer operator (&) b) Dot operators(.) c) Pointer operator(*) **d) Arrow operator(->)**

39. The ----- function reads character input into the variable line
a) getline() b) line() c) gets() d) None.

40. File streams act as an _____ between programs and files.
a) interface b) converter c) translator d) operator

41. Variables are declared in _____
a) Only in main () **b) anywhere in the scope** c) After the main () function d) the function.

42. _____ statement is used to transfer the control t pass on the beginning of the block/loop
a) Break b) jump c) goto **d) continue**

43. Which of the following function/types of function cannot have default parameters?
a) Member function of class **b) main()** c) Member function of structure d) Both B and C
44. Which is more effective while calling the functions?
a) call by value **b) call by reference** c) call by pointer
d) none
45. The operator used for dereferencing or indirection is ____
a) * b) & c) -> d) ->>
46. Which is more memory efficient?
a) Structure **b) union** c) both use same memory d) depends on a programmer
47. Identify the correct sentence regarding inequality between reference and pointer.
a) We cannot create the array of reference b) We can create the Array of reference.
c) We can use reference to reference d) none of the mentioned
48. The output formats can be controlled with manipulators having the header file as
a) iostream.h b) conio.h c) stdlib.h **d) iomanip.h**
49. A _____ is a collection of related data stored in a particular area on a disk.
a) Field **b) File** c) Row d) Vector
50. Which header file should be included to use functions like malloc() and calloc()?
a) memory.h **b) stdlib.h** c) string.h d) dos.h

K2 LEVEL QUESTIONS

1. Explain the term Function.

A function is a subroutine that may include one or more statements designed to perform a specific task.

2. Describe the term information.

A programming language is designed to help process certain kinds of data consisting of numbers, characters and strings and to provide useful output known as information.

3. Define program.

The task of processing of data is accomplished by executing a sequence of precise instructions called a program.

4. Summarize syntax rules.

Instructions are formed using certain symbols and words according to some rigid rules known as syntax rules.

5. Explain the term tokens.

In a passage of text, individual words and punctuation marks are called Tokens.

6. Interpret Keyword.

A keyword is a word that is reserved by a program because the word has a special meaning. Keywords can be commands or parameters. Every programming language has a set of keywords that cannot be used as variable names.

7. Portray Identifiers

Identifiers refer to the names of variables, functions and arrays.

8. What are reserved words?

Reserved words are words that are part of the standard C language library. It means that reserved words have special meaning and therefore cannot be used for purposes other than what it is originally intended for.

9. Explain the term Constants.

Constants refer to fixed values that do not change during the execution of a program.

10. Illustrate Variable.

A variable is a data name that may be used to store a data value.

11. Describe the term Operators.

An operator is a symbol that tells the compiler to perform a certain mathematical or logical manipulation. Operators are used in programs to manipulate data and variables.

12. What is Real Arithmetic?

An arithmetic operation involving only real operands is called real arithmetic.

13. State the data types that are associated with C.

Int, Float, Double, Char and Void.

14. When is a “switch” statement preferable over an “if” statement?

The switch statement is best used when dealing with selections based on a single variable or expressions. However, switch statements can only evaluate integer and character data types.

15. Describe the term Loop.

Loop is used to execute the block of code several times according to the condition given in the loop.

16. Summarize Nested Loop.

A loop running within another loop is referred as a nested loop. The first loop is called outer loop and inside the loop is called inner loop. Inner loop executes the number of times define an outer loop.

17. What is the difference between the = symbol and == symbol?

The = symbol is often used in mathematical operations. It is used to assign a value to a given variable. On the other hand, the == symbol, also known as “equal to” or ‘equivalent to’, is a relational operator that is used to compare two values.

18. Illustrate Header files.

Header files are also known as library files. They contain two important things: the definitions and prototypes of functions being used in a program.

19. Explain the term Array.

An array is a fixed-size sequenced collection of elements of the same data type. It is simply a grouping of like-type data.

20. Interpret Static Array.

The process of allocating memory at compile time is known as static memory allocation and the arrays that receive static memory allocation are called static arrays.

21. Describe Dynamic Array.

The process of allocating memory at run time is known as dynamic memory allocation and the arrays created at run time are called dynamic arrays.

22. Explain Multidimensional Arrays.

Multidimensional arrays are capable of storing data in a two or more dimensional structure.

23. Illustrate Dynamic Data Structure.

Dynamic data structure provides a means for storing data more efficiently into memory. Using dynamic memory allocation, our program will access memory spaces as needed.

24. Portray String.

A string is a sequence of characters that is treated as a single data item.

25. What is String Constant?

Any group of characters (except double quote sign) defined between double quotation marks is a string constant.

26. Describe static function with its usage.

A function, which has a function definition prefixed with a static keyword, is defined as a static function. The static function should call within the same source code.

27. Interpret Prototype.

Prototype function is a declaration of a function with the following information to the compiler about name of the function, return type of the function and parameters list of the function.

28. State the different types of control structures in programming.

There are three main control structures in programming: Sequence, Selection and Repetition.

29. Describe Structure.

A structure is a convenient tool for handling a group of logically related data items.

30. What do you mean by Nesting of structures?

Structures within a structure mean nesting of structure.

31. Portray Union.

A union is a special data type available in C that allows to store different data types in the same memory location. We can define a union with many members, but only one member can contain a value at any given time.

32. Explain the term Global variables.

Variables that are both alive and active throughout the entire program are known as external variables. They are also known as global variables.

33. Describe the term Automatic variables.

Automatic variables are declared inside a function in which they are to be utilized. They are created when the function is called and destroyed automatically when the function is exited, hence the name automatic. They are also referred as local or internal variables.

34. What do you mean by Compound statements?

A set of statements enclosed in a set of braces is known as block or a compound statement.

35. Portray newline escape sequence.

A newline escape sequence is represented by the `\n` character. This is used to insert a newline when displaying data in the output screen. More spaces can be added by inserting more `\n` characters.

36. What is the use of a “`\0`” character?

It is referred to as a terminating null character, and is used primarily to show the end of a string value.

37. Explain Modulus Operator.

The modulus operator outputs the remainder of a division. It makes use of the percentage (%) symbol.

38. When is the “void” keyword used in a function?

When declaring functions, we will decide whether that function would be returning a value or not. If that function will not return a value, such as when the purpose of a function is to display some outputs on the screen, then “void” is to be placed at the leftmost part of the function header.

39. Interpret actual arguments.

When we create and use functions that need to perform an action on some given values, we need to pass these given values to that function. The values that are being passed into the called function are referred to as actual arguments.

40. Summarize pointers.

Pointers point to specific areas in the memory. Pointers contain the address of a variable, which in turn may contain a value or even an address to another memory.

41. Illustrate Pointer variable.

The variable that contains a pointer value is called a pointer variable.

42. The % symbol has a special use in a printf statement. How would you place this character as part of the output on the screen?

We can do this by using %% in the printf statement. For example, we can write printf ("20%%") to have the output appear as 20% on the screen.

43. Summarize syntax error.

Syntax errors are associated with mistakes in the use of a programming language. It may be a command that was misspelled or a command that must was entered in lowercase mode but was instead entered with an uppercase character. A misplaced symbol or lack of symbol, somewhere within a line of code can also lead to syntax error.

44. Describe the term File.

A file is a place on the disk where a group of related data is stored.

45. What do you mean by file name?

Filename is a string of characters that make up a valid filename for the operating system.

46. Interpret Data Structure.

Data structure of a file is defined as FILE in the library of standard I/O function definitions. Therefore, all files should be declared as type FILE before they are used.

47. How do you search data in a data file using random access method?

Use the fseek() function to perform random access input/output on a file. After the file was opened by the fopen() function, the fseek would require three parameters to work: a file pointer to the file, the number of bytes to search and the point of origin in the file.

48. Describe Sequential access file.

In general programs store data into files and retrieve existing data from files. With the sequential access file such data saved in a sequential pattern, when retrieving data from such files each data need to read one by one until required information found.

49. Interpret comments in C.

Comments are a great way to put some remarks or description in a program. It can serve as a reminder on what the program is all about or description on why certain code or function was placed there in the first place.

50. Portray Command Line Argument.

It is a parameter supplied to a program when the program is invoked. This parameter may represent a filename the program should process.

K3 LEVEL QUESTION

1. Explain the term keywords and list out the keywords.
2. Interpret identifiers and state the rules for identifiers.
3. Portray the basic structure of C programs.
4. Explain the term variable and how will you declare it.
5. State the rules for declaring a variable.
6. List out the types of conversion.
7. Enumerate the arithmetic and relational operators in C language.
8. Portray the expression in C.
9. Explain the if... else statement with example.
10. Discuss nested if statement with example.
11. Explain the switch statement with syntax and example.
12. Explain the different types of loops in C with syntax and example.
13. Describe the use of go to statement.
14. Discuss the use of break and continue statement in loops.
15. Point out the input operations.
16. Explain the output operations.
17. Examine two dimensional arrays with example.
18. Enumerate the rules that apply to a function call.
19. Distinguish between global and local variables.
20. Discuss the characteristics of string manipulation.
21. Explain Command Line arguments with suitable example.
22. Explain Inline functions with suitable example.
23. Elucidate function prototyping.
24. Explain in detail about String functions with syntax and example.
25. Write the syntax for declaring and initializing a multidimensional array. Give example.
26. Describe the purpose of header files and give example.
27. Explain the function calls in C.
28. Describe about no argument in function.
29. Explain the argument with return value.
30. Explain the scope of function.

31. Write note on random access files in C.
32. Explain the visibility of function.
33. Explain the lifetime of function.
34. Describe the dynamic memory allocation functions in C.
35. Explain the term structure and syntax of structure declaration with example.
36. Explain pointers to pointers with suitable program.
37. Explain union and size of structures.
38. Describe the use of nested structure.
39. Discuss pointers to structures with example.
40. Explain how the structure variable passed as a parameter to function with example.
41. How arguments are passed to a function using references.
42. Explain Array of structures with example.
43. Elucidate how the pointer variable declared and initialized.
44. Explain Unions with simple example.
45. Explain structure within structure with example.
46. Explain the opening files in C programming.
47. Explain the closing files in C programming.
48. Explain the error handling I/O operations.
49. Describe Sequential access file.
50. Write a C program to swap two numbers using call by pointers method.

K4 AND K5 QUESTIONS

1. Explain character set and tokens
2. Explain constant and variables in C.
3. Describe the data types in C.
4. Explain if, if... else and switch statement with example.
5. Differentiate while and do-while statement.
6. Discuss and examples of one and two dimensional arrays.
7. Discuss arrays within structures.
8. Distinguish between structure and union.
9. Explain the string handling functions.

10. Discuss about user- defined functions.
11. Explain return value and their types.
12. Describe the nesting of functions.
13. Discuss the passing arrays and string functions.
14. Explain lifetime and global of variables.
15. Explain pointers in C with example.
16. Discuss the chain pointers in c.
17. Explain pointer and character strings.
18. Explain the array of pointers.
19. Describe pointers as function arguments.
20. Differentiate sequential access file and random access file.
21. Explain creating a data file also opening and closing a file.
22. Discuss the I/O operations of files.
23. Explain the error handling during I/O operations.
24. Write a program which finds the number of vowels in the given sentence.
25. Write a C program to check whether a string is palindrome or not.