1A

Constants are also called as “***Literals***”. A constant is an entity that doesn’t change.

|  |
| --- |
| ***Rules for constructing Integer Constants:***   1. An Integer constant must have at least one digit. 2. It must ***not*** have a decimal point. 3. It can be either positive or negative. If no sign precedes an integer constant, it is assumed to be positive. ***No Commas*** or ***blanks*** are allowed within an integer constant. 4. The allowable range for integer constants -2147483648 to +2147483648 for compilers like Visual Studio. |

2A

Tell which of the following integer constants are valid or invalid and why?

|  |
| --- |
| 1. ’S’ 2. ‘334’ 3. 786.98 4. ’pry’ 5. 56,998,876 6. 4 5 7 8 7. -789.87 8. +76854 |

2B

***Rules for constructing real constants:***

|  |
| --- |
| * A real constant must have at least ***one digit.*** * It must have a ***decimal point.*** * It could be either positive or negative, default is positive. * ***No*** commas or blanks are allowed within a real constant. * 0.000342 can be written as 3.42e-4( )The mantissa part and the exponential part should be separated by letter e or E. The mantissa part may have a positive or negative sign, default is positive. * The exponent must have at least ***one digit,*** may be positive or negative, default is positive. * Range of real constants is -3.4e38 to 3.4e38 |

1B

Tell which of the following integer constants are valid or invalid and why?

|  |
| --- |
| 1. a 2. 456 3. 45.2 4. “show” 5. 35,550 6. 4 5 7 8 7. -789 |

3A

Tell which of the following real constants are valid or invalid and why?

|  |
| --- |
| 1. +325.34 2. 426.675 3. -32.7678 4. 2^3 5. 4 . 6 7 6. +3.2e-5 |

4A

|  |
| --- |
| ***Rules for constructing character Constants:***   * A character constant is a ***single alphabet***, a ***single digit*** or a ***single special symbol*** enclosed within ***single inverted commas.*** * Both the inverted commas should point to the left. For Ex: ’A’ is a valid character constant whereas ‘A’ is not. |

Tell which of the following character constants are valid or invalid and why?

|  |
| --- |
| 1. ’S’ 2. ’5’ 3. ’=’ 4. ’elearning’ |

4B

Tell which of the following character constants are valid or invalid and why?

|  |
| --- |
| 1. ’78g’ 2. ’w’ 3. ‘a’ 4. ‘F’ 5. ‘$’ 6. ‘elearning’ 7. ‘3.45’ 8. ’Quest’ |

3B

Tell which of the following real constants are valid or invalid and why?

|  |
| --- |
| 1. ’3.15’ 2. 3.25e2 3. -7.9e-2 4. 8e9 5. “89e3” 6. -785 |

5A

1. Variables are also called as ***“Identifiers”.*** A variable is an entity that may change.
2. An ***Integer variable*** can hold just an integer constant.
3. A ***real variable*** can hold can hold a real constant.
4. A ***character variable*** can hold just a character constant.

Rules for constructing a Variable Names:

|  |
| --- |
| * A variable name is any combination of 1 to 31 alphabets, digits or underscores. * The first character of the variable name must be an ***alphabet or underscore (\_).*** * ***No*** commas or blanks are allowed within a variable name. * No special symbol other than an underscore can be used in a variable name. * A keyword cannot be used as a variable name. |

6A

Tell which of the following variable names are valid or invalid and why?

|  |
| --- |
| 1. dot. 2. \_main() 3. 1st 4. %name% 5. $hello 6. Number |

6B

Tell which of the following variable names are valid or invalid and why?

|  |
| --- |
| 1. temp\_in\_Deg 2. stack-queue 3. salary 4. BASICSALARY 5. basic 6. basic-hra |

5B

Tell which of the following variable names are valid or invalid and why?

|  |
| --- |
| 1. B’day 2. #HASH 3. totalArea 4. total% 5. variable name 6. int |

7A

Tell which of the following variable names are valid or invalid and why?

|  |
| --- |
| 1. #MEAN 2. group. 3. 422 4. Population in 2006 5. over time 6. mindovermatter |

8A

***C KeyWords***: Keywords are special words whose meaning is known to the compiler. We should not use keyword as a variable name.

|  |  |
| --- | --- |
| 1. auto: | 1. do: |
| 1. Si\_int: | 1. double: |
| 1. break: | 1. if: |
| 1. case: | 1. else: |
| 1. char: | 1. return: |
| 1. basesal: | 1. switch: |
| 1. float: | 1. volatile: |
| 1. continue | 1. while: |

Tell if the following are Keywords or not:

8B

Tell if the following are Keywords or not:

|  |  |
| --- | --- |
| 1. long: | 1. unsigned: |
| 1. enum: | 1. default: |
| 1. for: | 1. struct: |
| 1. goto: | 1. typedef: |
| 1. return: | 1. void: |
| 1. union: | 1. static: |
| 1. while: | 1. sizeof: |
| 1. signed: | 1. extern: |
| 1. int: | 1. register: |
| 1. const: | 1. pop\_e\_98: |

7B

Tell which of the following variable names are valid or invalid and why?

|  |
| --- |
| 1. FLOAT 2. Hell 3. queue. 4. team’svictory 5. Plot # 3 6. 2015\_Dday |

9A

Point out the errors, if any, in the following C statements:

|  |
| --- |
| 1. Int = 314.562 \*150; 2. Name = ‘Ajay’; 3. Varchar = ’3’; 4. 3.14\*r\*r\*h = vol\_of\_cyl; |

10A

Point out the errors, if any, in the following C statements:

|  |
| --- |
| 1. volume = 3.14\*r^2\*h; 2. k = ((a\*b)+c)(2.5\*a+b); 3. A = b= 3 = 4; 4. Count = count +1; 5. Date = ’2Mar04’; |

10B

Point out the errors, if any, in the following C statements:

|  |
| --- |
| 1. x = (y+3); 2. cir = 2\*3.141593\*r; 3. 4/3\*3.14\*r\*r\*r = vol\_of\_sphere; 4. Volume = a; 5. Area = ½\*base\*height; |

9B

Point out the errors, if any, in the following C statements:

|  |
| --- |
| 1. k = (a\*b)(c+(2.4a+b))(d+e); 2. m\_inst = rate of interest \* amount in rs; 3. si=principal\*rateofinterest\*numberofyears/100; 4. area = 3.14\*r\*\*2; |

11A

Point out the errors, if any, in the following C statements:

|  |
| --- |
| 1. si=p\*r\*n/100; 2. area of circle = 3.14\*r\*r; 3. peri\_of\_tri = a+b+c; 4. slope = (y2-y1)/(x2-x1); 5. 3=b=4=a; |

12A

State whether the following statements are true or false:

|  |
| --- |
| 1. C language has been developed by Dennis Ritchie: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ 2. Operating systems like Windows, UNIX, Linux and Android are written in C: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ 3. C language programs can easily interact with hardware of a PC/Laptop:­­\_\_\_\_\_\_\_\_\_\_\_ 4. A real constant in C can be expressed in both Fractional and Exponential forms.   \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_   1. A character variable can at a time store only one character: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ |

12B

State whether the following statements are true or false:

|  |
| --- |
| 1. The maximum value that an integer constant can have varies from one compiler to another: \_\_\_\_\_\_\_\_\_\_\_\_ 2. Usually all C statements are entered in small case letters: \_\_\_\_\_\_\_\_\_\_\_\_\_ 3. Spaces may be inserted between two words in a C statement: \_\_\_\_\_\_\_\_\_\_\_ 4. Spaces cannot be present within a variable name: \_\_\_\_\_\_\_\_\_\_\_\_\_ 5. C programs are converted into machine language with the help of a program called Editor: \_\_\_\_\_\_\_\_\_\_\_ |

11B

Point out the errors, if any, in the following C statements:

|  |
| --- |
| 1. Count = count+1; 2. Character=’25 Apr 11’; 3. x=100; 4. char c = ’\*’; 5. x++; |

13A

State whether the following statements are true or false:

|  |
| --- |
| 1. Most development environments provide an Editor to type a C program and a Compiler to convert it into machine language: \_\_\_\_\_\_\_\_\_\_\_\_\_\_ 2. Int, char, float, real integer, character, char, main, printf and scanf are all keywords: \_\_\_\_\_\_\_\_\_\_\_\_\_ 3. C language can be used only on Windows operating system: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ 4. A real constant in C can be expressed in both Fractional and Exponential forms: \_\_\_\_\_\_\_\_\_\_\_\_\_\_ |

14A

State whether the following statements are true or false:

|  |
| --- |
| 1. [] and {} can be used in Arithmetic instructions: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ 2. Each new C instruction has to be written on a separate line: \_\_\_\_\_\_\_\_\_\_\_\_\_ 3. Usually all C statements are entered in small case letters: \_\_\_\_\_\_\_\_\_\_\_\_\_ 4. Spaces may be inserted between two words in a C statement: \_\_\_\_\_\_\_\_\_\_\_\_ 5. Spaces cannot be present within a variable name: \_\_\_\_\_\_\_\_\_\_\_ |

14B

State whether the following statements are true or false:

|  |
| --- |
| 1. Hierarchy decides which operator is used first: \_\_\_\_\_\_\_\_\_\_\_ 2. An integer constant in C contains digits separated by commas: \_\_\_\_\_\_\_\_\_\_\_ 3. In C, a variable cannot contain spaces or hyphens: \_\_\_\_\_\_\_\_\_\_\_\_\_ 4. Keywords can be used as variable names: \_\_\_\_\_\_\_\_\_\_\_\_\_ 5. Variable names cannot contain spaces: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ 6. Capital letters can be used in variable names: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ |

13B

State whether the following statements are true or false:

|  |
| --- |
| 1. A character variable can at a time store only one character: \_\_\_\_\_\_\_\_\_\_\_\_\_ 2. ‘Quest eLearning Videos’ is a valid character constant: \_\_\_\_\_\_\_\_\_\_\_\_\_ 3. The maximum value that an integer constant can have varies from one compiler to another: \_\_\_\_\_\_\_\_\_\_\_ 4. A C variable cannot start with a digit: \_\_\_\_\_\_\_\_\_\_\_\_ 5. A variable name can contain a digit: \_\_\_\_ 6. \* or /, + or – represents the correct hierarchy of arithmetic operators in C: \_\_\_\_\_\_\_\_\_\_\_\_\_\_ |

15A

State whether the following statements are true or false:

|  |
| --- |
| 1. In C, Arithmetic instruction cannot contain constants on left side of = : \_\_\_\_\_\_\_\_\_\_ 2. In C \*\* operator is used for exponentiation operation: \_\_\_\_\_\_\_\_\_\_ 3. % operator cannot be used in floats: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ 4. C language has been developed by Ken Thompson, Dennis Ritchie, Peter Norton: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ 5. C can be used on MS-DOS operating system, Linux operating system, Windows operating system: \_\_\_\_\_\_\_\_\_\_\_\_ |

16A

Pick up the correct alternative for each of the following:

|  |
| --- |
| 1. The real constant in C can be expressed in which of the following forms: 2. Fractional form only 3. Exponential form only 4. ASCII form only 5. Both fractional and exponential forms 6. A character variable can at a time store: 7. 1 character 8. 8 character 9. 254 characters 10. None of the above. 11. The statement char ch = ‘Z’ would store in ch: 12. The character Z 13. ASCII value of Z 14. Z along with the single inverted commas 15. Both (a) and (b) |

16B

Pick up the correct alternative for each of the following:

|  |
| --- |
| 1. Which of the following is NOT a character constant: 2. ‘Thank You’ 3. ‘Enter values of P, N, R’ 4. ’23.56E-03’ 5. All of the above. 6. The maximum value that an integer constant can have is: 7. -32767 8. 32767 9. 1.7012e+38 10. -1.7012e+38 11. A C variable cannot start with: 12. An alphabet 13. A number 14. A special symbol than underscore 15. Both (b) and (c) |

15B

Pick up the correct alternative for each of the following:

|  |
| --- |
| 1. C language has been developed by: 2. Ken Thomson 3. Dennis Ritchie 4. Peter Norton 5. Martin Richards 6. C can be used on: 7. Only MS-DOS operating system. 8. Only Linux operating system. 9. Only Windows operating system. 10. All the above. 11. C programs are converted into machine language with the help of: 12. An Editor 13. A compiler 14. An operating system 15. None of the above. |

17A

Pick up the correct alternative for each of the following:

|  |
| --- |
| 1. Which of the following statement is wrong: 2. mes = 123.56; 3. con = ’T’ \* ’A’; 4. this = ’T’ \* 20; 5. 3 + a = b; 6. Which of the following shows the correct hierarchy of arithmetic operators in C: 7. \*\*, \* or /, + or – 8. \*\*, \*, /, +, - 9. \*\*, /, \*,+, - 10. / or \*, - or + 11. In b = 6.6/a +2 \*n; which operation will be performed first? 12. 6.6 / a 13. a + 2 14. 2 \* n 15. Depends upon compiler |

18A

Pick up the correct alternative for each of the following:

|  |
| --- |
| 1. The expression, a = 7/22\*(3.14 +2)\*3/5; evaluates to” 2. 8.28 3. 6.28 4. 3.14 5. 0 6. The expression, a = 30 \* 1000 + 2768; evaluates to 7. 32678 8. -32678 9. 113040 10. 0 11. The expression x = 4 + 2 % -8 evaluates to 12. -6 13. 6 14. 4 15. None of these |

18B

Pick up the correct alternative for each of the following:

|  |
| --- |
| 1. Hierarchy decides which operator: 2. Is most important 3. Is used first 4. Is fastest 5. Operates on largest numbers 6. An integer constant in C must have: 7. At least one digit 8. At least one decimal point 9. A comma along with digits 10. Digits separated by commas. 11. In C a variable cannot contain: 12. Blank spaces 13. Hyphen 14. Decimal point 15. All of the above. |

17B

Pick up the correct alternative for each of the following:

|  |
| --- |
| 1. Which of the following is allowed in a C Arithmetic instruction 2. [] 3. {} 4. () 5. None of the above 6. Which of the following statements is false: 7. Each new C instruction has to be written on a separate line. 8. Usually all C statements are entered in small case letters. 9. Blank spaces may be inserted between two words in a C statement 10. Blank spaces cannot be inserted within a variable name. 11. If a is an integer variable, a = 5/2; will return a value. 12. 2.5 b. 3 13. 2 d. 0 |

19A

Pick up the correct alternative for each of the following:

|  |
| --- |
| 1. Which of the following is false in C: 2. Key words can be used as variable names 3. Variable names can contain a digit 4. Variable names do not contain a blank space 5. Capital letters can be used in variable names. 6. In C, Arithmetic instruction cannot contain: 7. Variables 8. Constants 9. Variable names of right side of = 10. Constants on left side of = 11. Which of the following is odd one out? 12. + 13. – 14. / 15. \*\* |

20A

Fill in the blanks:

|  |
| --- |
| 1. In y = 10 \* x /2 + z; \_\_\_\_\_\_\_\_\_ operation will be performed first. 2. If **a** is an integer variable, a = 11 / 2; will store \_\_\_\_ in **a**. 3. The expression, a = 22 / 7 \* 5 / 3; would evaluate to \_\_\_\_\_\_. 4. The expression **x** = -7 % 2 – 8 would evaluate to \_\_\_\_\_\_\_. 5. If **d** is a float the operation **d** = 2 / 7.0 would store \_\_\_\_\_\_\_\_\_\_ in **d**. 6. The expression, **a** = 5000 \* 3 + 6754; would evaluate to \_\_\_\_\_\_. |

20B

Convert the following algebraic expressions into equivalent C statements:

|  |
| --- |
| ( x + 3 ) x^3   1. Z = ----- ----------------   ( y – 4) ( y + 5)   1. R = 2v + 6.22 ( c + d )   ----------------------  g + v |

19B

Pick up the correct alternative for each of the following:

|  |
| --- |
| 1. What will be the value of d(assume d to be a float) after the operation:   D = 2 ‘ 7.0?   * 1. 0   2. 0.2857   3. Cannot be determined   4. None of the above.  1. In C, % operator cannot be used on floats:    1. True    2. False    3. Both True and false    4. None of the above 2. What is **\n** in C    1. Output function    2. Escape sequence    3. Character constant    4. Function. |

21A

Convert the following algebraic expressions into equivalent C statements:

|  |
| --- |
| 1. A = 7.7b ( xy + a ) / c – 0.8 + 2b   -------------------------------------  ( x + a ) ( 1 / y )   1. X = 12x^3 8x^2 x 8   -------- + ------- + ---- + ----  4x 4x 8x 8x |

22A

Point out the errors, if any, in the following C statements:

|  |
| --- |
| 1. Si = p \* n \* r / 100; 2. Area of circle = 3.14 \* r \* r; 3. Peri\_of\_tri = a + b+ c; 4. Slope = ( y2 – y1 ) ( x2 – x1); 5. 3 = b = 4 = a; 6. Count = count +1; 7. Char ch = ’25 Apr 12’; |

22B

Evaluate the following expressions and show their hierarchy.

|  |
| --- |
| 1. ans = 5 \* b \* b \* x – 3 \* a \* y \* y – 8 \* b \* b \*x + 10 \* a \* y;   (a = 3, b = 2, x = 5, y = 4 assume ans to be a int) |

21B

Point out the errors, if any, in the following C statements:

|  |
| --- |
| 1. X = ( y + 3 ); 2. Cir = 2 \* 3.141593 \* r; 3. Char = ’3’; 4. 4 / 3 \* 3.14 \* r \* r \* r = vol\_of\_ sphere; 5. Volume = a^3; 6. Area = 1 / 2 \* base \* height; |

23A

Evaluate the following expressions and show their hierarchy.

|  |
| --- |
| 1. res = 4 \* a \* y / c – a \* y / c;   (a = 4, y = 1, c = 3, assume res to be an int) |

24A

Evaluate the following expressions and show their hierarchy.

|  |
| --- |
| 1. R = x \* x + 2 \* x + 1 / 2 \* x \* x + x + 1;   (x = 3.5, assume R to be an float). |

24B

Evaluate the following expressions and show their hierarchy.

|  |
| --- |
| 1. G = big / 2 + big \* 4 / big – big + abc / 3;   (abc = 2.5, big = 2, assume g to be a float) |

23B

Evaluate the following expressions and show their hierarchy.

|  |
| --- |
| 1. S = c + a \* y \* y / b;   (a = 2.2, b = 0.0, c = 4.1, y = 3.0, assume s to be an float) |

25A

Evaluate the following expressions and show their hierarchy.

|  |
| --- |
| 1. On = ink \* act / 2 + 3 / 2 \* act + 2 + tig;   (ink = 4, act = 1, tig = 3.2, assume on to be an int) |

26A

Evaluate the following expressions and show their hierarchy.

|  |
| --- |
| 1. S = qui \* add / 4 – 6 / 2 + 2 / 3 \* 6 / god;   (qui = 4, add = 2, god = 2, assume s to be an **int**) |

26B

Evaluate the following expressions and show their hierarchy.

|  |
| --- |
| 1. S = 1 / 3 \* a / 4 – 6 / 2/ + 2 / 3 \* 6 / g;   (a = 4, g = 3, assume s to be an **int**) |

25B

Evaluate the following expressions and show their hierarchy.

|  |
| --- |
| 1. On = ink \* act / 2 + 3 / 2 \* act + 2 + tig;   (ink = 4, act = 1, tig = 3.2, assume on to be an int) |

27A

Convert the following algebraic expressions into equivalent C statements:

|  |
| --- |
| 1. Z = 8.8 (a+b) 2 / c – 0.5 +2 a / (q + r)   --------------------------------------------  ( a + b) \* (1 / m)   1. X = -b + ( b \* b ) + 2 \* 4 ac   -------------------------------  2a |

28A

Answer the questions.

|  |
| --- |
| 1. What is “\n ” used for in C?   \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_   1. What is 3.145—a real constant or an integer constant?   \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_   1. What is -6513—a real, integer or character constant?   \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_   1. What is ’D’—a real, integer or character constant?   \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_   1. What is 4.25e-3 ?   \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_   1. What is main()?   \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_   1. What is %f, %d, and %c?   \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ |

28B

Answer the questions.

|  |
| --- |
| 1. Write a program to print “Hello world!” 2. Write a program to print “Hello world!” and “I want to be a programmer” in two different lines. 3. Write a program to declare a float or real variable “rate”, assign 7.56 to that variable and print it. 4. Write a program to declare an integer variable “amount”, assign 956 to that variable and print it. 5. Write a program to declare a character variable “Char”, assign T to that variable and print it. |

27B

|  |
| --- |
| 1. Why is a semi-colon(;) used in C language?   \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_   1. What is a Constant called?   \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_   1. What is a Variable called?   \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_   1. What is “&” called in C language?   \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_   1. What is a printf() called in C language?   \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_   1. What is a scanf() called in C language?   \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ |

29A

Answer the questions.

|  |
| --- |
| 1. Display your name on the first line and address on the second line. Separate each part of the address using tab. 2. WAP to write the name “Sreevalli” but print it as “Srevalli” 3. WAP to write “Aaditya Nookala” but print it as “aaditya Nookala” instead. 4. WAP to print a string like this : The\C\programming\language\was\developed\to\do\system\programming\for\the\operating\system\UNIX. 5. WAP to print the following string in single quotes: “The C Programming language” 6. WAP to ring a system bell. |

30A

Answer the questions.

|  |
| --- |
| * \_\_\_\_\_\_\_\_\_\_ is the conversion character for int. * \_\_\_\_\_\_\_ is the conversion character for octal numbering system * \_\_\_\_\_ is the conversion character for Hexadecimal numbering system * \_\_\_\_\_\_ is the conversion character for Long integer. * \_\_\_\_\_ is the conversion character for Short integer. * \_\_\_\_\_ is the conversion character for character. * \_\_\_\_\_ is the conversion character for String * \_\_\_\_\_ is the conversion character for float * \_\_\_\_\_ is the conversion character for Long Double * \_\_\_\_\_ is the conversion character for Exponential notation for float * \_\_\_\_ is the conversion character for either normal or exponential, whichever is shorter. |

30B

Answer the questions.

|  |
| --- |
| Identifier: read kindle chap 3   1. What is the range of value of the datatype unsigned char?   \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_   1. What is the size of an unsigned char?   \_\_\_\_\_\_\_\_\_\_   1. What is the range of value of the datatype signed char?   \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_   1. What is the size of a signed char?   \_\_\_\_\_\_\_\_\_\_   1. What is the range of value of the datatype char?   \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_   1. What is the size of a char?   \_\_\_\_\_\_\_\_\_\_   1. What is the range of value of the datatype short int?   \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_   1. What is the size of a short int?   \_\_\_\_\_\_\_\_\_\_   1. What is the range of value of the datatype unsigned short int?   \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_   1. What is the size of an unsigned short int?   \_\_\_\_\_\_\_\_\_\_ |

29B

Answer the questions.

|  |
| --- |
| 1. Write a program to accept a float or real variable “rate” from the user and print it. 2. Accept an integer value from the user and print it. 3. Accept a float value from the user and print it. 4. Accept an integer and a float value from the user and print it. 5. Accept a character value from the user and print it. 6. Accept a string from the user and print it. |

31A

Answer the questions.

|  |
| --- |
| 1. What is the range of value of the datatype int?   \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_   1. What is the size of an int?   \_\_\_\_\_\_\_\_\_\_   1. What is the range of value of the datatype Long int?   \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_   1. What is the size of a Long int?   \_\_\_\_\_\_\_\_\_\_   1. What is the range of value of the datatype unsigned Long int?   \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_   1. What is the size of an unsigned Long int?   \_\_\_\_\_\_\_\_\_\_   1. What is the range of value of the datatype long long int?   \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_   1. What is the size of a long long int?   \_\_\_\_\_\_\_\_\_\_   1. What is the range of value of the datatype unsigned long long int?   \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_   1. What is the size of an unsigned long long int?   \_\_\_\_\_\_\_\_\_\_ |

32A

Answer the questions.

|  |
| --- |
| 1. Write a program to accept a character variable “char” from the user and print it. 2. Write a program to accept two numbers from user and display the sum of the two numbers. 3. Write a program to accept two numbers from user and display its product. 4. Write a program to accept two numbers from user and display quotient. 5. Write a program to accept two numbers from user and display the remainder. |

32B

Answer the questions.

|  |
| --- |
| 1. Write a program to accept a number from user and display its cube. 2. Write a Program to accept two numbers from the user and display the difference. 3. WAP to accept two numbers and display the result of addition, subtraction, multiplication, division and Modulus in different lines. 4. WAP to accept inches from the user, convert the inches to cm and display the result.   (1inch = 2.5 cm)   1. WAP to accept cm from the user, convert the cm to inches and display the result. |

31B

Answer the questions.

|  |
| --- |
| 1. What is the range of value of the datatype float?   \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_   1. What is the size of a float?   \_\_\_\_\_\_\_\_\_\_   1. What is the range of value of the datatype double?   \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_   1. What is the size of a double?   \_\_\_\_\_\_\_\_\_\_   1. What is the range of value of the datatype long double?   \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_   1. What is the size of a long double?   \_\_\_\_\_\_\_\_\_\_ |

33A

Answer the questions.

|  |
| --- |
| 1. WAP to accept mm(millimeter) from the user, convert the mm to inches and display the result. 2. WAP to accept cm from the user, convert the cm to mm(millimeter) and display the result. 3. WAP to accept price and quantity from the user and display the amount. 4. WAP to accept a number and display its square. 5. WAP to accept a number from the user and display its cube. |

34A

Answer the questions.

|  |
| --- |
| 1. WAP to accept marks of five subjects and print the aggregate marks and percentage marks. 2. WAP to accept the length and breadth of a rectangle and display the area of the rectangle. 3. WAP to accept one side’s length of a square and display the area of the square. 4. WAP to accept one side’s length of a square and display its perimeter 5. WAP to accept the length and breadth of a rectangle and display its perimeter. |

34B

Answer the questions.

|  |
| --- |
| 1. WAP to accept the temperature in Fahrenheit degrees. Now convert this temperature into Centigrade degrees.   *T*(°C) = (*T*(°F) - 32) × 5/9   1. WAP to accept the radius of the circle and display the circumference of the circle. Take the value of Pi as 3.14 2. WAP to accept the radius of the circle and display the area of the circle. Take the value of Pi as 3.14 3. Paper of size A0 has dimensions 1189mm x 841mm. Each subsequent size A(n) is defined as A(n-1) cut in half parallel to its shorter sides. WAP to calculate and print paper sizes A0, A1, A2, … A8. 4. WAP to accept a five-digit number from the user, calculate the sum of its digits. Print the sum and the number accepted. |

33B

Answer the questions.

|  |
| --- |
| 1. WAP to accept amount and discount% from the user and display the Net Amount. 2. WAP to accept the salary of employee and display the net salary based on the following calculations:    * HRA = 40% - addition    * DA = 20% - addition    * PF = 2% - subtraction    * Income Tax = 10% - subtraction 3. WAP to accept two numbers from user, store in two locations C and D. Interchange the contents of C and D and print. 4. WAP to accept distance in Kilometers. Now convert and print this distance in meters, feet, inches and centimeters. 5. If a four-digit number is input through the keyboard, write a program to obtain the sum of the first and last digit of this number. |

35A

Answer the questions.

|  |
| --- |
| 1. WAP to accept a five-digit number from the user and print it in reverse order. 2. If lengths of three sides of a triangle are input through the keyboard, WAP to find the area of the triangle. 3. WAP to receive Cartesian co-ordinates(x, y) of a point and convert them into polar co-ordinates(r, .) 4. WAP to receive values of latitude (L1, L2) and longitude(G1, G2), in degrees, of two places on the earth and output the distance between them in nautical miles. The formula for distance in nautical miles is:   D = 3963 acos(sin L1 sin L2 + cosL1cosL2 \* cos(G2 – G1))   1. If a four-digit number is input through the keyboard, write a program to find the sum of the first and third digit. |

36A

Answer the questions.

|  |
| --- |
| 1. Two numbers are input through the keyboard into two locations C and D. WAP to interchange the contents of C and D. 2. Consider a currency system in which there are notes of seven denominations, namely, Re. 1, Rs. 2, Rs. 5, Rs. 10, Rs. 50, Rs. 100. If a sum of Rs. N is entered through the keyboard, write a program to compute the smallest number of notes that will combine to give Rs. N. 3. Take two numbers and display them in the reverse order of accepted order. 4. If the total selling price of 15 items and the total profit earned on them is input through the keyboard, write a program to find the cost price of one item. 5. WAP to accept a five-digit number and print a new number by adding one to each of its digits.   For Ex: the input is 12391, the output should be : 23402 |

36B

Point out the errors in the program if any.

|  |
| --- |
| 1. Int main()   {  Int a, float b, int c;  a = 25; b = 3.24; c = a+b\*b-35;  }  Ans: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_  2.  /\*Calculation of average  /\*Author: Joe\*/  /\*Place – Whispering Bytes \*/  \*/  #include <stdio.h>  Int main()  {  Int a = 35; float b = 3.24;  printf(“%d %f %d, a, b+1.5, 235”);  }  Ans: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ |

35B

Answer the questions.

|  |
| --- |
| 1. Wind chill factor is the felt air temperature on exposed skin due to wind. The wind chill temperature is always lower than the air temperature, and is calculated as per the following formula:   Wcf = 35.74 + 0.6215t +(0.4275t – 35.75) \* V0.16  where ‘t’ is the temperature and ‘v’ is the wind velocity. WAP to receive values of t and v from the user and calculate wind chill factor.   1. If value of an angle is input through the keyboard, write a program to print all its Trigonometric ratios. 2. Accept two integers and display octal equivalent of first and hex equivalent of second. 3. If the marks obtained by a student in five different subjects are input through the keyboard, write a program to find out the aggregate marks and percentage marks obtained by the student. Assume that the maximum marks that can be obtained by a student in each subject is 100. |

37A

|  |
| --- |
| #include <stdio.h>  int main()  {  Int a, b, c;  scanf(“%d %d %d, a, b, c”);  }  2.  #include <stdio.h>  int main()  {  Int m1, m2, m3  printf(“Enter values of marks in 3 subjects”);  scanf(“%d%d%d”, &m1, &m2, &m3);  printf(“You entered %d%d%d”, m1, m2, m3);  } |

38A

|  |
| --- |
| #include<stdio.h>  Int main()  {  Float a = 5, b = 2;  Int c, d;  c = a%b;  d = a/2;  printf(“%d\n”, d);  }  #include<stdio.h>  int main()  {  int a, b;  printf(“Enter values of a and b”)  scanf(“%d%d”, &a, &b);  printf(“a = %d b = %d”, a, b);  } |

38B

|  |
| --- |
| 1. # include<stdio.h>   int main()  {  printf(“nn \n\n nn\n”);  printf(“nn /n/n nn/n”);    }   1. #include<stdio.h>   Int x = 40;  Int main()  {  Int x = 20;  printf(“%d\n”, x);    } |

37B

Find the outputs of the following programs.

|  |
| --- |
| #include<stdio.h>  int main()  {  int i = 2, j = 3, k, l;  float a, b;  k = i/j\*j;  l = j/i\*I;  a = i/j\*j;  b = j/i\*i;  printf(“%d%d%f%f\n”, k, l, a, b);  return 0;  }  #include<stdio.h>  int main()  {  Int a, b, c, d;  a = 2 % 5;  b = -2 % 5;  c = 2 % -5;  d = -2 % -5;  print (“a = %d b = %d c = %d d = %d\n”, a, b, c, d);  } |

39A

What will be the output of the following programs:

|  |
| --- |
| 1. #include <stdio.h>   Int main()  {  Int x = 40;  {  Int x = 20;  Printf(“%d”, x);  }  printf(“%d\n”, x);  } |

40A

|  |
| --- |
| What do you mean by scope of a variable? What are the different types of scopes that a variable can have?  \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_  Which of the following statement is a declaration and which is a definition?  extern int i;  int j;  \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ |

40B

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| --- |
| What is the differences between a declaration and a definition? |

39B

Output:

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| --- |
| #include<stdio.h>  Int main()  {  Int I;  for(; scanf(“%d”, &i); printf(“%d\n”, i));  }   1. The for loop would not get executed at all. 2. The for loop would get executed only once. 3. The for loop would get executed 5 times. 4. The for loop would get executed infinite times. |

41A

|  |
| --- |
| Identify which of the following are definitions and which are declarations?  extern int x;  float y;  double pow (double, double);  float square (float x) { … } |

42A

Answer the questions.

|  |
| --- |
| Is it true that a global variable may have several declarations, but only one definition? (Yes/no)  In the following program where is the variable a getting defined and where is it getting declared?  #include <stdio.h>  int main()  {  extern int a;  printf(“%d\n”, a);  }  Int a = 20; |

42B

|  |
| --- |
| Which of the following is the correct output for the program given below?  #include <stdio.h>  Int main()  {  extern int a;  printf(“%d\n”, a);  }  Int a = 20;   1. 20 2. 0 3. Garbage value 4. Error |

41B

Correct output

|  |
| --- |
| #include <stdio.h>  int main()  {  extern int I;  i = 20;  printf(“%d\n”, sizeof(i));  }   1. 2 2. 4 3. Would vary from compiler to compiler 4. Error, i undefined |

43A

Answer the questions.

|  |
| --- |
| If the definition of an external variable occurs in the source file before its use in a particular function, then there is no need for an *extern* declaration in the function  [True/False]  Which statement should you add to the function main() to make it work?  #include <stdio.h>  int main()  {  printf(“%d\n”, z);  }  Int z = 25; |

44A

Answer the questions.

|  |
| --- |
| Why does the following program report an “display” error on compilation?  #include <stdio.h>  int main()  {  display();  }  void display()  {  printf(“Cliffhanger\n”);  } |

44B

Answer the questions.

|  |
| --- |
| Which of the following is the correct output for the program given below?  #include<stdio.h>  int main()  {  extern int fun(float);  int a;  a = fun(3.14);  printf(“%d\n”, a);  }  Int fun(aa)  Float aa;  {  return ((int)aa);  }   1. 3 2. 3.14 3. 0 4. Error |

43B

Answer the questions.

|  |
| --- |
| Suppose a program is divided into three files f1, f2 and f3, and a variable is defined in the file f1 but used in the files f2 and f3. In such a case would we need the extern declaration for the variables in the files f2 and f3? [Yes/No]  When we mention the prototype of a function are we defining the function or declaring it?  What is the difference between the following declarations?  extern int fun();  int fun(); |

45A

Answer the questions.

|  |
| --- |
| What will be the output of the following program?  #include<stdio.h>  int main()  {  } |

46A

Answer the questions.

|  |
| --- |
|  |

46B

Answer the questions.

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|  |

45B

Answer the questions.

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47A

Answer the questions.

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| --- |
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48A

What will be the output of the following programs:

|  |
| --- |
| #include<stdio.h>  Void main()  {  Int i = 2, j = 3, k, l;  Float a, b;  k = i/j\*j;  l = j/i\*I;  a = i/j\*j;  b = j/i\*I;  printf(“%d %d %f %f”, k, l, a, b);  } |

48B

What will be the output of the following programs:

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| --- |
|  |

47B

Answer the questions.

|  |
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49A

What will be the output of the following programs:

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50A

What will be the output of the following programs:

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50B

What will be the output of the following programs:

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49B

What will be the output of the following programs:

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51A

What will be the output of the following programs:

|  |
| --- |
| /\*Calculation of average  /\*Author: Sanjay\*/  /\*Place – Whispering Bytes\*/  \*/  #include <stdio.h>  Int main()  {  int a = 35; float b = 3.24;  printf(“%d %f %d”, a, b + 1.5, 235);  } |

52A

What will be the output of the following programs:

|  |
| --- |
| #include <stdio.h>  Int main()  {  int a, b, c;  scanf(“%d %d %d”, a, b, c);  } |

52B

|  |
| --- |
| #include <stdio.h>  int main()  {  int m1, m2, m3  printf(“Enter values of marks in 3 subjects”)  scanf(“%d%d%d”, &m1, &m2, &m3)  printf(“You entered %d %d %d”, m1, m2, m3);  } |

51B

|  |
| --- |
| #include<stdio.h>  Int main()  {  Int a, b, c, d;  a = 2 % 5;  b = -2 % 5;  c = 2 % -5;  d = -2 % -5;  printf (“a = %d b = %d c = %d d = %d\n”, a, b, c, d);  return 0;  } |

53A

Decision Control Instruction:

|  |
| --- |
| WAP to ask user to enter a number that is less than 10. If the user enters a number less than 10, print “What an obedient servant you are!” else just quit. |

54A

Decision Control Instruction:

|  |
| --- |
| WAP to accept quantity and rate from the user. If the quantity is greater than 1000, give a discount of 10% of the total amount and print the total expenses. |

54B

Decision Control Instruction:

|  |
| --- |
| WAP to accept the current year and year of joining from the user. If the years of service are greater than 1 and less than 3, give a bonus of 2500. If the years of service are greater than 3, give a bonus of 5000. |

53B

Decision Control Instruction:

|  |
| --- |
| WAP to find out the gross salary and print it. Accept the basic salary from the user. If the basic salary is less than 1500, hra is 10% of the basic salary and da(daily allowances) is 90 % of basic salary. If the basic salary is greater than or equal to 1500, hra is 500 and da is 98% of the basic salary. |

55A

Decision Control Instruction:

|  |
| --- |
| WAP to ask user to enter either 1 or 2. If the user enters 1, print “You would go to heaven”. If the user enters 2, print “Hell was created with you in mind” and if the user enters any other number, print “How about mother earth!” |

56A

Attempt the following:

|  |
| --- |
| If cost price and selling price of an item are input through the keyboard, write a program to determine whether the seller has made a profit or incurred loss. Also determine how much profit he made or loss he incurred. |

56B

Attempt the following:

|  |
| --- |
| Any integer is input through the keyboard. WAP to find out whether it is an odd number or even number. |

55B

Attempt the following:

|  |
| --- |
| Any year is input through the keyboard. Write a program to determine whether the year is a leap year or not. |

57A

|  |
| --- |
| According to the Gregorian calendar, it was Monday on the date 01/01/01. If any year is input through the keyboard, write a program to find out what is the day on 1st January of this year. |

58A

|  |
| --- |
| A five-digit number is entered through the keyboard. WAP to obtain the reversed number and determine whether the original and reversed numbers are equal or not. |

58B

|  |
| --- |
| If the ages of Ram, Shyam and Ajay are input through the keyboard, WAP to determine the youngest of the three. |

57B

|  |
| --- |
| WAP to check whether a triangle is valid or not, when the three angle of the triangle are entered through the keyboard. A triangle is valid if the sum of all the three angles is equal to 180 degrees. |

59A

|  |
| --- |
| WAP to find the absolute value of a number entered through the keyboard. |

60A

|  |
| --- |
| Given the length and breadth of a rectangle, WAP program to find whether the area of the rectangle is greater than its perimeter. For ex: the area of the rectangle with length = 5 and breadth = 4 is greater than its perimeter. |

60B

|  |
| --- |
| Given three points (x1, y1), (x2, y2) and (x3, y3), write a program to check if all the three points fall on one straight line. |

59B

|  |
| --- |
| Given the co-ordinates of a circle and its radius, write a program that will determine whether a point lies inside the circle, on the circle or outside the circle. |

61A

|  |
| --- |
| Given a point (x, y), WAP to find out if it lies on the X-axis, Y-axis or on the origin. |

62A

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62B

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61B

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63A

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78B

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77B

What will be the output of the following programs:

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| --- |
| #include<stdio.h>  int main()  {  int a = 300, b, c;  if(a>=400)  b = 300;  c = 200;  printf(“%d %d\n”, b, c);  return 0;  } |