BRAINWARE UNIVERSITY

Term End Examination 2020 - 21

Programme – Bachelor of Computer Applications

Course Name – Problem Solving using C

Course Code - BCAC101

Semester / Year - Semester I

Time allotted : 75 Minutes Full Marks : 60

[The figure in the margin indicates full marks. Candidates are required to give their answers in their own words as far as practicable.]

Group-A

(Multiple Choice Type Question) 1 x 60=60

1. *(Answer any Sixty)*

(i) Which of the following is executed by Preprocessor?

a) #include<stdio.h><stdio.h></stdio.h> b) return 0

c) void main(int argc , char ** argv) d) None

(ii) What will be the output: int main() { int a = 5; int b = 10; int c = a+b; printf("%i",c); }

a) 0 b) 15

c) Eror d) Undefined i

(iii) What will be the output of the following C code? #include <stdio.h> int main() { printf("Hello World! %d \n", x); return 0; }

a) It will cause a compile-time error b) It will cause a run-time error

c) It will run without any error and prints 3 d) It will experience infinite looping

(iv) Which of the following is allowed in a C Arithmetic instruction?

a) [] b) {}

c) () d) none

(v) Which of the following special symbol allowed in a variable name?

a) * (asterisk b) | (pipeline)

c) - (hyphen

d) _ (underscore)

(vi) By default a real number is treated as a

a) float

b) double

c) long double

d) far double

(vii) Which of the following is not an advantage of a flowchart?

a) Better communication

b) Efficient coding

c) Systematic testing

d) Improper documentation

(viii) Which of the following is a program planning tool?

a) Sequential

b) Decision

c) Pseudo Code

d) Both Decision and Pseudo Code

(ix) Which of the following is the correct order of evaluation for the expression? z = x + y * z / 4 % 2 - 1

a) * / % + - =

b) = * / % + -

c) / * % - + =

d) * % / - + =

(x) Which of the following is the correct usage of conditional operators used in C?

a) a>b ? c=30 : c=40;

b) a>b ? c=30;

c) max = a>b ? a>c?a:c:b>c?b:c

d) return (a>b)?(a:b)

(xi) Which of the following is not a logical operator?

a) &

b) &&

c) ||

d) !

(xii) The keyword used to transfer control from a function back to the calling function is

a) switch

b) goto

c) go back
d) return

(xiii) In which stage the following code #include<stdio.h> gets replaced by the contents of the file stdio.h

a) During editing
b) During linking
c) During execution
d) During preprocessing

(xiv) Which is a keyword in ‘C’?

a) auto
b) extern
c) volatile
d) All of these

(xv) In C, if you pass an array as an argument to a function, what actually gets passed?

a) Value of elements in array
b) First element of the array
c) Base address of the array
d) Address of the last element of array

(xvi) How will you print \n on the screen?

a) printf("\n");
b) echo "\\n";
c) printf('\n');
d) printf("\\n");

(xvii) How will you free the allocated memory ?

a) remove(var-name);
b) free(var-name);
c) delete(var-name);
d) dalloc(var-name);

(xviii) Iteration is the process where a set of instructions or statements is executed

a) Once
b) repeatedly
c) Thrice
d) None

(xix) Which of the following statements are correct about an if-else statements in a C-program? 1: Every if-else statement can be replaced by an equivalent

statements using ?: operators 2: Nested if-else statements are allowed. 3: Multiple statements in an if block are allowed. 4: Multiple statements in an else block are allowed.

a) 1 and 2
b) 2 and 3
c) 1, 2 and 4
d) 2, 3, 4

(xx) Which of the following sentences are correct about a for loop in a C program? 1: for loop works faster than a while loop. 2: All things that can be done using a for loop can also be done using a while loop. 3: for(;;); implements an infinite loop. 4: for loop can be used if we want statements in a loop get executed at least once.

a) 1
b) 1,2
c) 2,3
d) 2,3,4

(xxi) Which of the following errors would be reported by the compiler on compiling the program given below? #include<stdio.h> int main() { int a = 5; switch(a) { case 1: printf("First"); case 2: printf("Second"); case 3 2: printf("Third"); case 5: printf("Final"); break; } return 0; }</stdio.h>

a) There is no break statement in each case.
b) Expression as in case 3 2 is not allowed.
c) Duplicate case case 5
d) No error will be reported.

(xxii) Point out the error, if any in the program. #include<stdio.h> int main() { int a = 10, b; a >=5 ? b=100: b=200; printf("%d\n", b); return 0; }

a) 100
b) 200
c) Error: L value required for b
d) Garbage value

(xxiii) What will be the output of the program? #include<stdio.h> int main() { static int a[20]; int i = 0; a[i] = i ; printf("%d, %d, %d\n", a[0], a[1], i); return 0; }

a) 1, 0, 1
b) 1, 1, 1
c) 0, 0, 0
d) 0,1,0

(xxiv) What will be the output of the program? #include<stdio.h> int main() { int i=-3, j=2, k=0, m; m = ++i && ++j || ++k; printf("%d, %d, %d, %d\n", i, j, k, m); return 0; }

a) 1, 2, 0, 1
b) -3, 2, 0, 1
c) -2, 3, 0, 1
d) 2, 3, 1, 1

(xxv) What will be the output of the program? #include<stdio.h> int main() { int x=4, y, z; y = --x; z = x--; printf("%d, %d, %d\n", x, y, z); return 0; }

a) 4, 3, 3
b) 4, 3, 2
c) 3, 3, 2
d) 2, 3, 3

(xxvi) What will be the output of the program? #include<stdio.h> int main() { int a=100, b=200, c; c = (a == 100 || b > 200); printf("c=%d\n", c); return 0; }

a) c=100
b) c=200
c) c=1
d) c=300

(xxvii) What will be the output of the program? #include<stdio.h> int main() { int x=55; printf("%d, %d, %d\n", x<=55, x=40, x>=10); return 0; }

a) 1, 40, 1
b) 1, 55, 1
c) 1, 55, 0
d) 1, 1, 1

(xxviii) What will be the output of the program ? #include<stdio.h> int main() { int a[5] = {5, 1, 15, 20, 25}; int i, j, m; i = ++a[1]; j = a[1]++; m = a[i++]; printf("%d, %d, %d", i, j, m); return 0; }

a) 2, 1, 15
b) 1, 2, 5
c) 3, 2, 15
d) 2, 3, 20

(xxix) What will be the output of the program if the array begins at 65472 and each integer occupies 2 bytes? #include<stdio.h> int main() { int a[3][4] = {1, 2, 3, 4, 4, 3, 2, 1, 7, 8, 9, 0}; printf("%u, %u\n", a 1, &a 1); return 0; }</stdio.h>

a) 65474, 65476
b) 65480, 65496

c) 65480, 65488

d) 65474, 65488

(xxx) What is an array?

a) An array is a collection of variables that are of the dissimilar data type.

b) An array is a collection of variables that are of the same data type

c) An array is not a collection of variables that are of the same data type.

d) None of these

(xxxi) Which of the following is allowed in C for 2DArray declaration

a) [][]

b) {}[]

c) ()[]

d) None of these

(xxxii) Choose a correct statement about C language arrays

a) An array address is the address of first element of array itself

b) An array size must be declared if not initialized immediately.

c) Array size is the sum of sizes of all elements of the array.

d) All of these

(xxxiii) An array Index starts with.?

a) -1

b) 0

c) 1

d) 2

(xxxiv) Which is the correct statement about C language arrays.

a) An array size can not changed once it is created

b) Array element value can be changed any number of times

c) To access Nth element of an array students, use students[n-1] as the starting index is 0.

d) All of these

(xxxv) What is the output of C Program.? int main() { int a[]; a[4] = {1,2,3,4}; printf("%d", a[0]); }

a) 1

b) 2

c) 4 d) Compile Error

(xxxvi) What is the output of C Program.? int main() { int a[3] = {20,30,40}; a[0]++; int i=0; while(i<3) { printf("%d ", i[a]); i++; } }

a) 20 30 40 b) 41 30 20

c) 21 30 40 d) None of these

(xxxvii) What is the output of C program with arrays.? int main() { int a[3] = {20,30,40}; int b[3]; b=a; printf("%d", b[0]); }

a) 20 b) 30

c) address of 0th element d) Compiler error

(xxxviii) What is the output of C program with arrays and pointers.? int main() { int a[3] = {20,30,40}; int *p[3]; p=&a; printf("%d", *p[4]); }

a) 20 b) address of element 20

c) Garbage value d) Compiler error

(xxxix) What is a Base Address of an array in C language.?

a) Base address is the address of 0th index element. b) An array b[] base address is &b[0]

c) An array b[] base address can be printed with printf("%d", b); d) All of these

(xl) An entire array is always passed by ___ to a called function.

a) Call by value b) Call by reference

c) Address relocation d) Address restructure

(xli) Which of the following statements mentioning the name of the array begins DOES NOT yield the base address? 1.When array name is used with the sizeof operator. 2:When array name is operand of the & operator. 3:When array name is passed to scanf() function. 4:When array name is passed to printf() function.

a) 1
b) 1,2
c) 2
d) 2,4

(xlii) Which operators are known as Ternary Operator?

a) ::, ?
b) ?, :
c) ?, ;;
d) None of these

(xliii) What is the work of break keyword?

a) Halt execution of program
b) Restart execution of program
c) Exit from loop or switch statement
d) None of these

(xliv) What is function?

a) Function is a block of statements that perform some specific task.
b) Function is the fundamental modular unit. A function is usually designed to perform a specific task.
c) Function is a block of code that performs a specific task. It has a name and it is reusable
d) All of these

(xlv) Diagramatic or symbolic representation of an algorithm is called

a) Data-Flow diagram
b) Flowchart
c) E-R diagram
d) None of these

(xlvi) What will be the output of the program If the integer is 4bytes long?
#include<stdio.h> int main() { int ***r, **q, *p, i=8; p = &i; q = &p; r = &q; printf("%d, %d, %d\n", *p, **q, ***r); return 0; }

a) 8, 8, 8
b) 4000, 4002, 4004
c) 4000, 4004, 4008
d) 4000, 4008, 4016

(xlvii) Which of the following are correctly formed #define statements in C?

a) #define CUBE (X) (X*X*X);
b) #define CUBE(x) (X*X*X)
c) #define CUBE(X)(X*X*X)
d) #define CUBE(X) {X*X*X}

(xlviii) What will be the size of the following structure? struct demo{ int a; char b; float c;}

a) 12
b) 8
c) 10
d) 9

(xlix) What is the output of this program? #include<stdio.h> int main(){ struct leader {char *lead;int born; }; struct leader l1 = {"AbdulKalam", 1931}; struct leader l2 = l1; printf("%s %d", l2.lead, l1.born); }

a) Compilation error
b) Garbage Value 1931
c) AbdulKalam 1931
d) None of these

(l) The correct syntax to access the member of the ith structure in the array of structures is? Assuming: struct temp{ int b;}s[50];

a) s.b.[i];
b) s.[i].b;
c) s.b[i];
d) s[i].b;

(li) Which of the following are incorrect syntax for pointer to structure? (Assuming struct temp{int b;}*my_struct;)

a) *my_struct.b = 10;
b) (*my_struct).b = 10;
c) my_struct->b = 10;
d) Both *my_struct.b = 10; and (*my_struct).b = 10;

(lii) Number of bytes in memory taken by the below structure is #include <stdio.h> struct test{ int k; char c;};</stdio.h>

a) Multiple of integer size
b) Integer size + character size
c) Depends on the platform
d) Multiple of word size

(liii) What is the output of this program? #include <stdio.h> struct student { int no = 5; char name[20];}; void main() { struct student s; s.no = 8; printf("hello");}</stdio.h>

a) Nothing
b) Compile Time Error

c) hello

d) Varies

(liv) What is the output of this C code ? #include <stdio.h> struct student { int no = 5; char name[20]; }; void main() { struct student s; s.no = 8; printf("%d”,s.no); }</stdio.h>

a) Nothing

b) Compile Time Error

c) main(){}Varies

d) 8

(lv) How many bytes are occupied by near, far and huge pointers (DOS)?

a) near=2 far=4 huge=4

b) near=4 far=8 huge=8

c) near=2 far=4 huge=8

d) near=4 far=4 huge=8

(lvi) What would be the equivalent pointer expression for referring the array element a[i][j][k][l]

a) ((((a+i)+j)+k)+l)

b) *(*(*(*(a+i)+j)+k)+l)

c) (((a+i)+j)+k+l)

d) ((a+i)+j+k+l)

(lvii) What will be the output of the program ? #include<stdio.h> int main() { static char *s[] = {"black", "white", "pink", "violet"}; char **ptr[] = {s+3, s+2, s+1, s}, ***p; p = ptr; ++p; printf("%s", **p+1); return 0;}

a) ink

b) int

c) act

d) None of these

(lviii) The declaration of the statement char *p=Brainware University” will cause

a) Compile error

b) Runtime Error

c) Memory out of space

d) Compile with out Error

(lix) What will be the output of the program ? #include<stdio.h> int main() { char *str; str = "%d\n"; str++; str++; printf(str-2, 300); return 0; }

a) No output

b) 30

c) 3

d) 300

(lx) What will be the output of the program? #include<stdio.h> int main() { char str[] = "peace"; char *s = str; printf("%s\n", s++ +3); return 0; }

a) peace

b) eace

c) ace

d) ce