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OVE “ode “rT oe oD. Se. “ rn es

Oe, course Code: CIT-111 Co San

era . urse Title: Programmins Languay.:

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as prigures wt ine gh #0 inccate fuil marks, Split par if iat x

; t putting answer if highly discourag 24)

Time: 03 Hours

Total Marks: 70 |

|

Answer any five of the following questions

/ a) Define program and programming language. Write the difference between compiler, 3

assembler and interpreter with example. ,

b) Write a C code of sum ef the digits ofa number. (If the input 4050then output will 3

be 9)

|

|

co) Find the errors and corect the error. it) How many times CSE PSTU will print: 142

. minclude=stdio.h \. finclude<stdio.h> =3 |

2. int main(void) 2. int main() i

\* t 3. { i

4. while(.) 4. int x; :

d. \ 5. for(x’-1; x<=10)x4 +) | .

6. printi(' hele"): G. f [|

7. } 7. if(x<8)

& return 0; §. continue,

9 } 9, else

1G, oreak:

Vt. printh(“CSk PSPL’),

12, )

1 return Gf

gd) Fill-In the blanks ineack of the following siuenont z

a) In coumter-controlled iteration, afm) ----. - used to count the number of times a |

group of instructions should be repeated. ‘|

b) The --------------statement, when exccuted in aa iteration statement, causes the next |

iteration of the Joop to be performed immechately, |

c) The ---------statemen!, When executed in an iteration statement ora switch, causes '

an immediate exit from the statement, |

d) The ------------- is used to test a particular variable or expression for cach of the

constant integral vulues il may assume

¢) Write a C program to count the total number of vowel or consonant ina word.. 3

. |

Z a) Define expresian and statement. Distinguish therm with example, 3

b) Write a program for reversing an odd number where user will enter the input from 3

the keyboard.

c) i) Find the error(s) if anyandcorrected 11) Find the output of thetoHowing cose 242

the code #include<stdio.h> =4

!. Hinelude<stdio.h> int main()

2. void main() { . 4 ca

3 inta = 10, b= 25; 1,

4. int x = 10; a= bs - a oo

5. int y = 15; b = --b- --a; . .

6 printf"%d", (x, )) } printf("Zod %d\a", a,b); } nile 242 7

. , . ss os Ny ine While 23

d) i) Find the output of the following ii) What’s wrong with the following toe a 3

codec iteration statement (assume Z eae the . -

100), which is supposed to calcu ee. .

l. #include<stdio.h> sum of the integers from 100 downto \*\*

2. int main() —

“ .\*

. =70- oT hey om

4, int m= -10, n = 20; suill 3

5, n= (m<0)? 0:1; } an

/6 printi("%od %d", m,n);

MY

. le: 3

zB a) Classify Data Types with Example:

; i de \_ ii) Find the output of the following code 242

b) Find the output of the following code: ene oe lio. g 7

\. Hinclude<stdio.h> 1. rc ue e<stdic. .

2 int main) 2. int main(){

3. { 3. int check = 2;

4 int m= 100, n= 0: 4. switch(check){

5. while(n == 0) S. case 1:

6. { G. print(("Computer”).

7, if(m < 10) break; 7. casc2:

8. M = m-10; R. print{('Science’);

9. \ 9. case 3:

10. return 0; 10. print{("Engineering”),

’ <

V1. } 11 default: '

12, pantfi"PS TU"),

13. }

i4 retam @,

1. }

ce) Lxplain the difference amung For loop Whilcloop Do while loop with an 4

example

d) Calculate grade using switch statement inc. Grade like At =780, A= 70, 13-60, \_ 3

Co=$0), De AG F390 , .

x av Define fonction Evisth, desembe tie foe ton call aad onus praccdhive Gs pee ac 4

example of multifunction progran.

b) Write a program to print prime numbers beiween two integers using function, 4

c) Define recursion. Write down the advantages and Cisadvantages of recursion? 3

Deaeribe the score, visibility and lifetime of varinbles. . ,

d) Write a program to find the sum of N natural numbers using recursion. UseN=Sas 4

your test data and demonstrate the calls and returns in details.

5 a) How pointer is initialized? Is there any arithmetic operation permitted on pointers? 3 ;

Describe with example,

b) Write a program to pass pointers to functions. 4

: c) What is call by value and call by reference? Describe with examples. Write down the 3

common mistakes when working with pointers. :

a) Write a function using pointers to exchange the values stored in two locations inthe 4

memory. oe ;

iw a) Whatis afile? Why file is necessary? Explain how the file open and file close 3 |

. furnctions handled. '

b) A file named NUMB contains a series of integer numbers. Write a program to read 4

these numbers and then write al] ‘odd’ numbers to a file to be called ODD and all

even’ numbers to a file ty be called EVEN,

c) How does structure diftes from union? Describe with memory representation. Show 3

the different ways of assigning values lo structure members.

a) Defin C 1 Consist) . .

) 4 e ‘ structure called complex consisting of two floating-point numbers x and y 4 ou

an nd wt wee y

eclare a variable p of type complex. Assign initial values 0.0 and 1.1 to the -

members. i so

’ . Sa

i =

: ° \_ bs

Patuakhali Science and Technology University 7

RSe Engs, (CSE) Level-1, Semester-I, Final Examination J an-Jun/ 16, Session: cn

re Course code: CIT-111 =—~—~\_\_Course Title: Programming Language a

¥ | Credit hours: 3.00 Full marks: 70 Duration: 3hours "q

~~ | (Figures in the right margin indicate full marks.) 7

ie Answer any 7 of the following questions. Split answering 1s not recommended. 46

. 2 of a \*

e) " Explain how a computer executes a given set of Instruction? . = .

Kb.), Show the validity of the following variable names: ay 1x7 .

{i} int, (ii} Int, (ii) dab, (iv) \_\_, (v) \_dab, (vi) 1 ab, (vii) ab ,

. f c.) Calculate memory requirements for the declaration eageab-0: int c[5QQ], char s{100}; WY 1

> ae A program crashed after taking some inputs, What type of error had your program}. 2

be” Provide appropriate examples of programming errors. 3 &

\_£ Find the errors, if any in the following program. Mention the type of each error and fix it. 5

° Inta, bt float ¢ = 0; a

- \_ scanf("%ed%d" &a, b); Le - pe :

TSyer gy jen

a=" b; 1 .

eo a. What happens if you run the following 2 code segmentsfor the input given? Which one is better in 142

Ae terms of error handling?~ ~~ vo J

“1 int main(} int maini) / ; .

{ { charste[10); . ot ;

charstr([10];. int |; Given Input: : . Q

gets(str); for(!=0;1<30; i++) {told him that 1 sav ‘

puts(str); scanf("%c",&str[i]); told him that | saw a saw to saw a saw with a saw,

return 0; puts(str};\_ os ot oe . .

, return 0; } .

a) b) . —

() "How can you find the n” odd number using a C program? 5

CS) We the syntax of for, while and do-while loops. When should which one be used and why? - Wl

¥ What will be values of a, b and after executing the following code segments? 25%4 ;

| inta=1,b=1,¢1; Int a=3,b=5,c=4; int i=10, a=25, b=2, c=7; 6)

for(i=0;1<10;i++); a\*stt+a + b-+—¢; do

ay { , bj} iff@&&b| {c) 4‘ {

| c=atb; a %= ¢; ‘ q ql ° a&&b; . . a

a=b; else 3 a-sb--; 24

b=¢; a= b-c; he . val

} jwhileli>0} [a>0); oh WF: ag

wa ‘ ey . , og cad

: g)} int a20,be5,c=4; / a ae

. a\*zate+b-+t-<¢; M4 . - ZZ

an ie —<«

» ae

Es a

4 . . 7 oe

\_ eo. fv -

. f

f - + University ; '

f- Patuakhali Science and Technology Jan-Jur/2017, Session: 2016-19

, B.Sc. Engg. (CSE) Level-1, Semester-1, Final Examination /aient "os Lames "

5 ' course Title: Programming -anguage ”

Course code: CIT-111 Cours Duration{3 hours )

Credit hours: 3.00 Full marks: 70 i ks.|

s . . ae ee full marks. .

igures in the right margin indicate full ma ded

. . oy ‘ ecommended.

Answer nr of} following questions. Split answering ' not

: ; sourme modules 3

1, a. ) Draw the flow chart of solving a complex probly using modular prograrnening Aspuime Your \_\_

as smalier sub problems —

| 2 7

Show the validity of the following variable names: 1x

(1) int, (ti) Double, (iii) SC, (lv), (Vv) \_5C, (vi) 1\_ab, (vii) xyz

Za a. Aprogram crashed after taking some inputs. What type of error had your program? \_- 2

gram

ib. ’ Find the errors, if anyin the following program. Mention the type of each error and fix it. ; F

Int a, b; float c = 0; ~~

scafn(“%d%d" 8a);

azttbt+-ctt;

b = a%c

° fifasd,c).

pritn{(“%d%d%d",a,b,c);

z ° = werea C progeacr which should take 3 strings srl, str2, str3 as inputs. Then, it should search str2 6

‘ within strl and replace all occurrences of str2 with str3.

—— ‘

uate the Gintax of for, while and do-while loops. When should which one be used and why? 2+2

| vA \_— :

4. Wratvoil ce yvaues ofa, bandc after executing the follawing code segments? 2.5x4

{ tas $,b23,64; int a--5, b=6, c=4; inti={O,)a=5, b=? c57,

t fore Deldie 3}, as 44a 4 bw SG do

at | bY f(a] }c) (

c= abt, asale or

a= BUI, else “ a-sbe: <7

| ae 7 bebe oe i-=2:

ip huhilelis0),

‘ Soe — :

| di int a=0,b=5,c=4; :

‘| atsate + Det ~G

———\_— = -— a

2, Write aC propram ta reverse a given integer. Your progian should have a fupction named numReverse 6

wrich should take an integer a as input and seturn the reversed number as output. Follow the —

sequencebelow,

Pain function (2 marks} numReverse function (3 marks}

{ {

Input n; ae Reverse a

Call numReverse function with a Return reversed n j

Print reversed a }

} ee ee ee 1 mark for getting everything right. 4

rite aC program to reverse a string. This program should contain a function named strReverse 242

function which takes a string as Input and returns the reversed string. The sequence should be similar

. to the one given in 5.a. with the substitution of the number with a string. aeae ieee

; ; z ; ; ; yf be, ae ; a

aS 7 7 De

a

2 pe al

6. Write a prograin in C to create a telephone book using file and structure. The structure should contain “tq

three strings named firstName, lustName and pho of length maximum 20. Your program should have

functions for read the file, write in the file and search in the file. Your program should at first print a .

menu as follows.

Press 1 for Search the phone book a“

Press 2 for save a new number

Press 3 to Exit h

\ i in the menu.

Your program should be able to perform the tasks mentioned in

2 marks for read file, 2 marks for write file, 2 marks for the menu, 2 marks for structure, 2 marks for main function

1) Compare the file openning modes|~ read, write and append. a“ 3

i ‘

b. Describe the functionality of fopen, fseek, fprintf, fscanf, fgets, fputs and felose functions. 1x7

Define: pointer, array and string a “\oass ot ’ 1x3

suppose you declared int a[10],\*p; —~ ae 3

Is it possible to write p = a; ? Justify your answer a

@ Compare array and steucture- 2

XX ‘ou want to take 5 students’ name and their IDs as input from the keyboard. Declare the variables to 2

perform this task. 4 . SO

Aya Wee neuen swap 2 Integer values using functions and pointers. .———7T . 4

> / Nhat would have happened if you did not use pointer to pass the va i ;

K Vv :

Solon for the process of conn ; ‘ p alues in the function? Expl 3

; piling an running aC program, :

c& oo 3

x | oo .

. "a

| . 7 i

eta(e, 4 p) a.

= (put a

+E a we ni

oo Patuakhali Science and Technology University "

, B.Sc. Engg. (CSE) 1 Semester Level-1, Semester-I, Final Examination January-June?

. \_ Course code: CIT-11] Course Title: Programming Language '

Credit hour: 3.00 Full marks: 70 Duration: 3 hours Session: 2017-18 “%

[Figures in the right margin indicate ful! marks. ] ,

Answer any 5 of the following questions, Split Answering is not recommended. 3

Ma Draw the flowchart of adding 2 numbers if both are even, 7 4

b. Compare the memory requirements of different data types. 3

P | YP

, ¢. Show the validity of the following variable names: , 1x7

(1) int, (ii) Double, (iit) SC, (iv) \_\_ ,(v) SC, (vi) !\_ab, (vii) xyz

‘ - v 7 1

Yo. Explain different lypes of programming errors with exainples 4

b. Find the ervors, if any, in the progrant at the re 10

right hand side. Mention the type of each error float a b, Int c =O;

and fix it scain("“d%d” Ba, c);

a=++b++-ctt:

b= a%e\_

if(a<b,c)

~ pritol(“%d%d%d"a,b,c);

Joa. What will be the values ofa and b atier exccuting following code segment? 2

. int a, b = 10;a = -b--;

b. What will be the output to the following progiany? 2

[char \*getstring() =——SS\*~S~S~S«S En main () oF

' h \*str = "test for strings"; |{ print£("ts + getString()); .

| ( wae return 0;

| return str; . ;

i} a Jb

c. What will be the output to the follow ing program? ; 3

a a OY

line main() |

i

| nt x: ("3d", &));

£("8d", scanf ("8d", ; . .

| 7s suepose that input value given for above scanf is 20 \*/ .

, I return 1; )

ann 3

d. What will the following 2 printf statement print?

: ; i " asd", strlen("PSTU")); 4

ippet pri 2 —

e. What will the following code snippet print? \_ ng

; "Tnt first = 50, second = 60, third; g

rind = first /\* Will this comment work? #/ + second; md

printf("td /\* And this? \*/ \n", third); —

f What will be the output of the following code snippet for a = § and b = 2? os

\_ if(a&b) print f(“inside if”); | eat

ake: rintf(“inside else”), {cw’ Bis,

oa :

ye

. ee

“a

™ a 7

evelop a program in Lente nt dete . “a

Devel i Pp : Clo create a student ditabase Using file and structure. The structu he

cortani three strings Named firstMame lavtNeune and stuilentlD of ferngsth maximum 26." ~ =~

program should have functions for read the file, write in the Hile anc search in the Fite "v, Your “

program should at first print a menu as follows. \* Your ’

Press | for add new entry ‘

Press 2 for show list

Press 3 to search by ID :

Press 4 to search by last name .

Your program should be able to perform the tasks mentioned in the menu. .

2 maiks for read file. 2 marks for write file, 2 marks for the menu, 2 marks for the structure

Jmaks for Searching inthe fist, 2 marks for the main function, 2 marks lor getting everything sight,

a Suppose you have the followisg program. re |

| #oinciude <stdioa,ty Pveord maint) +

;vord funtint x} tf 2

| | ini y = 2a; +

x = 30; 6 funy); oo prinke "A", yy; 2

Pe II

Will this program run? yes. what well be the valput? Justify your answer,

b. Compare call by value and cell by reference with necessary examples, 4

Create aC propram to swap 2 integer valies using functions and polnmters, 5

ad

Ye HO Compare the file opeaning misces read, wete and append, 2.

J Describe the functionality of fopon, feeek, pring, facanf, fects, fputs and fclose functions. “Tx7

€& Suppose you do not have th. Sgig at header the You have to copy @ string str/ to another String 5 °

$2. You also need to caloulate the fenpth af sod, Create a © program to copy str/ into str2 and

io getthe length of ied. Write 2 factions namedy vet conn Stringtchar “sted, char“str2) and

int geStringtl ength(char \*ste]) and call them trom the main function. Print the length of the

MW LEMPINGU ENS

string in the main finction

Tks tur eae Siro funcnon, bimark for geiStringLength function,

Trtark forthe sain fusetion. mark for getting everything right,

wt intlued 2 Stdifo.b

. ind moinl)

int A. be j

,

" & w)

Scant (874 rd", RO. ,

Volus")!

printd (" Enten-th- )5

° 4+)

tore U2, Nene,