Name : ....

Roll No. : ....

Invigilator's Signature : ....

CS / B.PHARM / SEM-3 / CS-303 / 2010-11

2010-11

BASIC ELECTRONICS AND COMPUTER APPLICATION

Time Allotted : 3 Hours   *Full Marks* : 70

The figures in the margin indicate full marks.

Candidates are required to give their answers in their own words

as far as practicable.

GROUP – A

(Multiple Choice Type Questions)
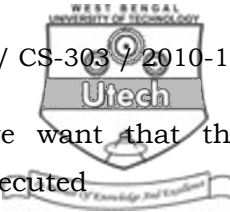
1.   Choose the correct alternatives for the following :   10 × 1 = 10

    i)   Unix is a

        a)   Single user operating system

        b)   Multi-user operating system

        c)   Batched operating system

        d)   Distributed operating system.

3265   [Turn over]

ii) Binary 10101.11 is equivalent to decimal

    a)   21   b)   21·75

    c)   21·0   d)   75·21.

iii) The value of the Boolean expression $A + A.B$ is

    a)   A   b)   B

    c)   C   d)   A.B.

iv) The value of the Boolean expression $(X+Y)'$ is

    a) $X'.Y'$ b) $X' + Y'$

    c)   XY   d)   X + Y.

v) Two input XNOR gate is equivalent to

    a) $AB + A'B'$ b) $AB' + A'B$

    c) $AB + (AB)'$ d) $(A+B)+(A+B)'$.

vi) A do-while loop is useful when we want that the statements within the loop must be executed

    a) only once   b) at least once

    c) more than once   d) none of these.

vii) The output code of the following program is

Void main ( )

{ If (i $\%$ 2)

Continue;

Print f ("$\%$", i); }

    a) 12345   b) 135

    c) 24   d) none of these.

viii) Find the octal equivalent to $(1011101.1011)_2$

    a) $(134.54)_8$ b) $(110.45)_8$

    c) $(152.50)_8$ d) $(675.78)_8$.

ix) What is the size of the data type double ?

    a) 8 byte   b) 4 byte

    c) 2 byte   d) 12 byte.

x) In C language 'division by zero' is a

    a) compile time error   b) run time error

    c) not an error   d) none of these.

GROUP – B

(Short Answer Type Questions)

Answer any *three* of the following.   3 × 5 = 15

2. What is multi-user and single user operating system ? Give an example.   5

3. What are the functions of the following dos command :   5

    edit, dir, attrib, xcopy.

4. What is batch file ? Give an example.   5

3265   4

5. What is the difference between call by value and call by reference ? 5

6. a) What do you mean by universal gate ? Give example.

   b) Prove that $(X + Y)' = X' \cdot Y'$ 2 + 3

GROUP – C

(Long Answer Type Questions)

Answer any *three* of the following. 3 × 15 = 45

7. a) What is loop ?

   b) Write a program in C language to determine whether a number is prime or not.

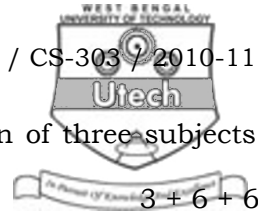   c) Write a program to calculate factorial value of any given number. 3 + 6 + 6

8. a) What is an array ?

   b) Find the biggest and smallest number among 100 numbers.

c) Write a program to calculate addition of three subjects for three students.   3 + 6 + 6

9. a) What are the difference between switch case and if else statement ?

   b) Write a C program that act as a calculator using switch case.

   c) What is conditional operator ? Write a program to implement this ?   4 + 5 + 6

10. a) Prove that $(a + b) (b' + c) + b (a' + c') = ab' + ac + b$, where a, b, c are Boolean variables.

    b) Write a program to find GCD of two no.

    c) Draw a logic diagram of the following function :

       $F = A.B + (C.D)' + E.F$ 5 + 5 + 5

3265   6

11. a) What is an array ? How to initialize an array ?

b) What are the limitations of an array ?

c) What is the prototype of a function ?

d) Write a program to add to matrices of size 3 × 3.

4 + 2 + 2 +7

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