



Name :

Roll No. :

Invigilator's Signature :

CS/B.PHARM(N)/SEM-3/CS-303/2012-13

2012

BASIC ELECTRONICS AND COMPUTER APPLICATIONS

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) Which of the following operators takes only integer operands ?

- a) +
- b) *
- c) /
- d) %

ii) C is a language

- a) procedural
- b) object-oriented
- c) both (a) & (b)
- d) none of these.

iii) 1 nibble is equal to

- a) 4 bits
- b) 8 bits
- c) 12 bits
- d) 16 bits.

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[Turn over



- ix) RAM stands for
- Random access memory
 - Read access memory
 - Readwrite access memory
 - None of these.
- x) Operating System is
- Program software
 - Application software
 - System software
 - Firmware.

GROUP - B

(Short Answer Type Questions)

Answer any *three* of the following. $3 \times 5 = 15$

- Simplify the following Boolean expressions
 - $(x' + xyz') + (x' + xyz') (x + x'y'z)$ 3
 - prove that $(x + y)' (x' + y') = x'y'$ 2
- What do you mean by universal gate ? Give example.
Implement NOR gate (truth table). 3 + 2
- What is Compiler. Give example
What is Interpreter. Give example $2 \frac{1}{2} \times 2 = 5$
- Ram's basic salary is Rs. 5,000/-. His dearness allowance is 40% of basic salary and house rent allowance is 20% of basic salary. Write a program to calculate his gross salary.
- Temperature of a city in Fahrenheit degrees is input through the keyboard. Write a program to convert this temperature into centigrade degrees.
- Convert decimal 75 to equivalent BCD and octal and hexadecimal number.



GROUP - C

(Long Answer Type Questions)

Answer any *three* of the following. $3 \times 15 = 45$

8. What are the different hardware components of a modern digital computer ? Discuss briefly about each. Discuss about the applications of computer in Pharmacy. $7 \frac{1}{2} + 7 \frac{1}{2}$

9. What is a function ? What is function prototype ? What do you mean by a return value of a function ? Write a program in C to calculate the value of the series $1 + 1 / (1 + 2) + 1 / (1 + 2 + 3) \dots\dots + 1 / (1 + 2 + 3 + \dots\dots N)$ using a function. N is an integer. $2 + 2 + 2 + 9$

10. What is the difference between a while loop and a do-while loop ? Write a program in C to search a value in an integer array. What are the different relational operators used in C ? What are the logical operators ? What is a static variable ?

11. Write short notes on any *three* : $2 + 5 + 3 + 2 + 3$
 $3 \times 5 = 15$
a) D'Morgan's Laws in Boolean Algebra
b) Universal Logic Gates
c) Control flow in C
d) Operating System

12. Write a program in C to calculate the mean and standard deviation of N input numbers. Consider the segment of C code write the output. $10 + 5$
Int x = 10, y = 0, z = 9
While (x - -) {
Print f ("& d/t", x);
Print f ("%d/t", ++y);
Print f ("%d/n", - - z);
}

