(Please write your Exam Roll No.) Exam Roll No. 001220202

END TERM EXAMINATION

(10)

FIRST SEMESTER [BCA] DECEMBER-2012

Paper Code: BCA107 **Subject: Introduction to Computers & Information Technology**

Time : 3 Hours **Maximum Marks :75**

Note: Attempt five question including Q.no.1 which is compulsory. Select one question from each unit.

Q1. Attempt any **Ten** of the following:- **(2.5x10=25)**

(a) What are the characteristics of computer?

(b) What are the different types of portable computer?

(c) What are the major functions of a computer?

(d) Explain binary number system?

(e) What is instruction set?

(f) What is the significance of 2's compliment in binary arithmetic?

(g) What are the basic types of RAM?

(h) What is an auxiliary storage device?

(i) What are the different types of software?

(j) How does an operating system work?

(k) What is the advantage of a GUI?

(l) What is a URL?

(m) What is difference between data and information?

SECTION A

Q2. Explain the following:- **(2.5x5=12.5)**

(a) Protocols (b) IP address (c) World Wide Web

(d) Web browser (f) E-mail

Q3. Describe the following:- **(2.5x5=12.5)**

(a) Data transmission mode

(b) Unguided transmission media

(c) Network topologies

(d) Advantages and Disadvantages of TREE topology

(e) Basic elements of a communication system

SECTION B

Q4. (a) Convert the following:- **(1.5x5=7.5)**

(i) $(12.34)_{10}$ = ( )$_2$ (ii) $(E16)_{16}$ = ( )$_{10}$

$(512)_8$ = ( ) (v) $(11001)_2$ = ( )$_8$

$(1100)_2$ = ( )

P.T.O.

(b) Perform the following and check the result by converting the binary numbers to decimal number:- **(2.5x2=5)**

(i) $(11101)_2 + (01010)_2 = (\quad)_{10}$

(ii) $(11001)_2 - (0110)_2 = (\quad)_{10}$.

Q5. (a) Show the octal, binary and hexadecimal equivalent of the decimal number 675. **(4.5)**

(b) Write short notes on:- **(2x4=8)**

(i) 1's complement of binary number. (ii) ASCII coding scheme

(iii) Grey code (iv) Floating point number representation

SECTION C

Q6. Differentiate between the following:- **(3+3.5+3+3)**

a. Selection and Iteration

b. Low – level and High – level language

c. Compiler and Interpreter

d. Linker and Loader

Q7. (a) Classify the OS into different types based on their processing capability. List the main function of the OS and describe in detail. **(6.5)**

(b) Write the algorithm, draw a flow chart and write pseudo code for – sum of any five integers. **(6)**

SECTION D

Q8. (a) Define peripheral devices. Discuss any three Input – Output devices of each in details. **(6)**

(b) Describe the computer generation based on the – **(6.5)**

(i) Hardware (ii) Software (iii) Computing characteristics

(iv) Physical appearance (v) Application

Q9. (a) Differentiate between the:- **(2x3=6)**

i. Sequential access device and direct access device

ii. Cache memory and RAM

iii. ALU and CU

(b) On what basis computers are classified today? What major types of computers are there based on these classified scheme? **(6.5)**

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