END TERM EXAMINATION

FIRST SEMESTER [BCA] NOV.-DEC. - 2019

Paper Code: BCA107	Subject: Introduction to Computers & IT
Time: 3 Hours	Maximum Marks: 75

Note: Q. No. 1 is compulsory. Attempt one question from each unit.

Q1 Attempt the following:-   (5x5=25)
   a) Define Computers. Explain the various characteristics of Computer System.
   b) What are Registers? Explain different types of CPU Registers.
   c) Convert $(295)_{10}$ to Binary and BCD.
   d) Differentiate between multiprogramming and time-sharing operating system.
   e) What is an instruction set? Explain various types of addressing modes.

UNIT I

Q2. a) What is generation in Computer terminology? List various computer generations along with the key characteristics of hardware and software technologies in each generation.   **(6.5)**
   b) What are Input and Output devices? Discuss any 3 of each in detail **(6)**

OR

Q3.a) What do you mean by computer organization? Explain the basic organization of a computer system with the help of a block diagram   **(5)**
   b) Differentiate the following: **(7.5)**
      i) Static and Dynamic RAM
      ii) Magnetic Disk and Magnetic Tape
      iii) PROM and EPROM

UNIT II

Q4.a) Define Operating System. Discuss two primary objectives of an Operating System. Explain various functions provided by most of the operating system.   **(6.5)**
   b) Define Algorithm with characteristics. Write an algorithm using flowchart and Pseudocode to find the maximum of N numbers.   **(6)**

OR

Q5. Write short notes for the following: **(12.5)**
   i) Types of Operating System
   ii) Loader and Linker
   iii) Process Control Block (PCB)
   iv) Flowchart and Pseudocode
   v) Multiprocessor Operating System and its advantages

UNIT III

Q6.a) What is the significance of Base in number system? Distinguish among bindary, octal and hexadecimal number system with examples.   **(4.5)**
   b) Perform the following operations. For subtraction use complement's method: **(8)**
      i) $(1100011)_2 - (10111)_2$
      ii) $(11001)_2 - (11110)_2$
      iii) $(36)_{10} - (87)_{10}$
      iv) $(110011)_2 + (11111)_2$

[P.T.O.]

Q7. a) Explain the following with example: (any 3). (4.5)
   i) ASCII Code ii) Unicode iii) BCD iv) Grade code
   b) Convert the following: (8)
      i) $(8B5A)_{16}$ = ($)_{10}$
      ii) $(125.75)_{10}$ = ($)_{2}$
      iii) $(1765)_{8}$ = ($)_{2}$
      iv) $(10111.101)_{2}$ = ($)_{10}$

UNIT IV

Q8. a) Explain various types of computer network topologies along with their advantages and disadvantages. (6.5)
   b) Write short notes on any 3 from the following. (6)
      i) FTP ii) WWW iii) Client Server Architecture iv) Digital and Analog Signals

Q9. a) What are the main components of a data communication system. Explain different types of transmission media used in data communications along with their advantages and disadvantages. (8.5)
   b) Distinguish between Intranet and Extranet with example. (4)

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