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BAS-006

B.TECH. (AEROSPACE ENGINEERING) (BTAE)

00384

Term-End Examination

June, 2014

BAS-006 : COMPUTER FUNDAMENTALS

Time : 3 hours *Maximum Marks : 70*

Note : *Question **No.1** is **compulsory**. Attempt **any six** questions from **Q. No. 2** to **10**.*

1. Answer the followings : **10x1=10**

(a) Expand ENIAC, EDSAC.

(b) Convert $(0.6875)_{10}$ to binary.

(c) Define CPU and ALU.

(d) What is an entity in DBMS ?

(e) The cause of propagation delay is the time it takes a pulse to get through a logic device. (True / False)

(f) Floating point representation is used to store _____.

(g) A computer's memory is composed of 8k words of 32 bit each and a byte is 8 bit. How many bytes does this memory contain ?

(h) Pressing F8 key three times selects _____.

(i) Word Art is the graphic solution for word processor. (True / False)

(j) Which short cut-key is used to open the "Open dialog Box" ?

2. (a) Draw a block diagram of computer and explain it in detail. 7

(b) Explain about main memory. 3

OR

Describe the following with example. 5x2=10

(a) Input device
(b) Output device
(c) Registers
(d) Primary and secondary memory
(e) Bus

3. (a) What are the three main purposes of operating system ? 5

(b) Draw the UNIX file system structure and explain in brief. 5

4. Explain the following terms/phrases/keywords with the help of an example/diagram if needed : 10

(a) Mail merge
(b) Logical AND function in MS Excel
(c) Find and Replace in MS Word
(d) MIN and MAX function in SQL
(e) Impact Printer and Non Impact Printer

OR

(a) Explain the difference between database key and Random access key. 5

(b) What is SQL ? Write SQL commands/ verbs/ clause with one example. 5

(i) SELECT (ii) UPDATE
(iii) DELETE

5. (a) Convert the following numbers into decimal. 8

(i) $(1001001.011)_2$ (ii) $(12121)_3$
(iii) $(1032.2)_4$ (iv) $(4310)_5$
(v) $(0.342)_6$ (vi) $(50)_7$
(vii) $(8.3)_9$ (viii) $(198)_{12}$

(b) Subtract $(100111)_2$ from $(101101)_2$ 2

6. (a) Write a program to evaluate the function $y = x^N$. 5

(b) Write a program to find the factorial of a number. 5

7. (a) What is magnetic disk ? Explain the different types of magnetic disks. 5

(b) What is the latency of writing one 512 byte sector on a mognetic disk rotating at 5400 rpm with the following parameters : 5

Average seek time = 12 ms
Transfer rate = 5 MB/s
Controller delay = 2 ms

8. (a) Describe the purpose of the Qualifiers 'const' and 'volatile'. 5

(b) Describe the four basic data types. How could we extend the range of values they represent ? 5

9. (a) Explain any two UNIX commands with syntax. 5

(b) Write a 'for' statement to print each of the following sequence of integers : 5

(i) 1, 2, 4, 8, 16, 32
(ii) 1, 3, 9, 27, 81, 243

10. What is the average time to read one sector if disk characteristic are as follows : 10

Average seek time = 8 m sec
Average rotational delay = 3 m sec
Maximum rotational delay = 6 m sec
Spindle speed = 100000 rpm
Sector per tract = 170 sectors
Sector size = 512 bytes