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BAS-006

B. TECH. AEROSPACE ENGINEERING (BTAE)

Term-End Examination

June, 2019

BAS-006 : COMPUTER FUNDAMENTALS

Time : 3 Hours *Maximum Marks : 70*

***Note** : Attempt any **seven** questions. All questions carry equal marks. Use of scientific calculator is permitted.*

1. What is Object Oriented Programming paradigm ? Name the four basic concepts of OOPS. 10

2. (a) Differentiate between CPU and ALU. 5

   (b) A disk pack consists of 8 disk plates, each plate has 500 tracks and there are 100 sectors per track. If 512 bytes can be stored per sector, calculate the total number of bytes which can be stored. 5

3. (a) Write a C programme to calculate and print the roots of a quadratic equation : 5

$$A x^2 + B x + C = 0.$$

(b) Write a C programme to calculate and print the sum of the series, taking input as x and N : 5

$$\text{Sum} = 1 - x + \frac{x^2}{2} - \frac{x^3}{3} + \frac{x^4}{4} - \frac{x^5}{5} + \ldots + \frac{x^N}{N}.$$

4. (a) Enlist the different input and output devices. 5

(b) Draw a sketch showing layout of a MS Excel worksheet. Explain the "Sort" feature in MS Excel. 5

5. (a) What is a mail merge operation ? What are files that you have to prepare for mail merge operation ? 5

(b) What are the features available in the current generation computers ? 5

6. What is the difference between "sorting a database file" and "indexing a database file" ? What are the advantages and disadvantages of these two methods ? 5

7. Answer the following questions in brief : (5×2=10)

   (a) Explain any *two* commands of Linux.

   (b) Explain single-dimensional array.

   (c) Differentiate between GUI and CUI.

   (d) What is a Cache memory ?

   (e) Name various "Format Options" in MS-Word.

8. (a) Differentiate between while( ) and do ..... while( ) statements in C programme. 5

   (b) Write the importance of 'Header' and 'Footer' features of MS-Word. 5

9. (a) What is system software ? Discuss the various types of system software. 5

   (b) Explain in brief the use of Relational Database Management System in relation to Aerospace Engineering. 5

10. (a) Determine the decimal equivalent of $(11010)_2$. 2

    (b) Determine the octal equivalent of $(432267)_{10}$. 2

(c) Determine the decimal equivalent of $(127662)_8$. 2

(d) Determine the binary equivalent of $(231)_8$. 2

(e) Determine the hexadecimal equivalent of $(5112)_{10}$. 2