2020

BCA

1st Semester Examination

COMPUTER FUNDAMENTALS

PAPER—1101

Full Marks : 100

Time : 3 Hours

The figures in the right-hand margin indicate full marks.

Candidates are required to give their answers in their own words as far as practicable.

Illustrate the answers wherever necessary.

Group A

Answer any *three* questions.   20×3

1. (a) Draw a block diagram of a computer. Explain the function of each of the blocks.   4+4

   (b) Explain assembly language and its disadvantages.   3+3

   (c) What are the advantages of higher level language ?   3

   (d) What are the characteristics of 5th generation computer ?   3

2. (a) What is operating system ? Why does it require ? Discuss in brief the functions of an operating system. 2+2+6

(b) Write a short note on Dot matrix printer. What are the differences between Dot Matrix Printer and Line Printer ?

4+4

(c) What is WWW ? 2

3. (a) What is advantages of octal and hexadecimal numbers over binary numbers ? 2+2

(b) Perform Subtraction using :

(i) 1's compliment method (ii) 2's Complement method

(i) $(11010)_2 - (10000)_2$ (ii) $(1000100)_2 - (1010100)_2$

2+2

(c) Explain 1's compliment and 2's compliment with the help of an example. 3+3

(d) List two devices which can be used as input as well as output device. Differentiate between RAM and ROM. 2+4

4. (a) What do you mean by sign magnitude form of representation ?

3

(b) Convert $(268.75)_{10}$ to hexadecimal number. 3

(c) What are radices used in case of octal and hexadecimals ?

2+2

(d Determine the base x : $(211)_x = (152)_8$ 4

(e) What is the role of Software in Computers? Compare compiler with interpreter. 4+2

(Turn Over)

5. (a) Differentiate between hardware and software. 4

(b) Explain concept of +ve and -ve logic. What is a logic gate ?
  2+2+2

(c) What is the purpose of ALU unit in CPU ? 4

(d) Differentiate between single user and multi-user system.

  4

(e What is flowchart ? 2

6. (a) What is multiprocessing operating system? Write its applications. 2+2

(b) What are the differences between multiprogramming and multiprocessing operating system? 4

(c) What are the differences between system software and application software? 3

(d) Draw a flowchart of factorial of a number. 5

(e) Explain internal and external dos commands. 4

7. (a) What is meant by a cache memory explain ? Write its uses.

  2+2

(b) What is HTML ? Why we use different tags in HTML ?
  2+4

(c) Write a short note on following topics (any *two*): 5×2

   (i)   email

   (ii) Net Banking

   (iii) E-Commerce.

Group B

Answer any *one* question. 10×1

8. (a) State and prove the De-morgans law. 2+4

(b) What is universal property of NAND gate ? 3

(c) What do you mean by firmware ? 1

9. (a) What is the meaning of PROM ? What are the differences between PROM and EEPROM ? 2+4

(c) What is the main application of an optical character reader ? 2

(d) What is the role of the data bus ? 2

10.(a) What is floating point representation ? What are the advantages of floating point representation ? 2+2

(b) What is normalize of a number ? Give it a suitable example. Why we normalize the number ? 2+2+2

[Internal Assessment : 30]

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