

2023
B.A./B.Sc.
First Semester
 GENERIC ELECTIVE – 1
COMPUTER SCIENCE
Course Code: CSG 1.11
 (Computer Fundamentals)

Total Mark: 70

Pass Mark: 28

Time: 3 hours

Answer five questions, taking one from each unit.

UNIT-I

1. (a) Define the term “computer” in your own words. How is a computer different from a human? 1+3=4
- (b) Differentiate between hardware and software of a computer. What is application software? Give example. 2+1+1=4
- (c) Explain the main components of a computer system. 6
2. (a) What is an operating system? What are its main functions? 2+2=4
- (b) Differentiate between primary and secondary memory. 5
- (c) Write a short note on generations of computer. 5

UNIT-II

3. (a) Add $(101100.10)_2$ and $(101010.11)_2$. 2
- (b) Subtract $(101010)_2$ from $(110010)_2$ using 2’s complement method. 3
- (c) Convert the following: 3×3=9
 - (i) $(AB.CDE)_{16}$ into octal number system
 - (ii) $(65.23)_{10}$ into binary number system
 - (iii) $(654.21)_8$ into decimal number system
4. (a) Convert the following: 2+2+3=7
 - (i) $(765)_8$ into hexadecimal number system
 - (ii) $(1101)_2$ into decimal number system
 - (iii) $(8A.2)_{16}$ into decimal number system
- (b) Subtract the following: 3+4=7
 - (i) $(110001)_2$ from $(111000)_2$ using 1’s complement
 - (ii) $(11010)_2$ from $(-10001)_2$ using 2’s complement

UNIT-III

5. (a) What are peripheral devices? Give some examples. 1+1=2
(b) Differentiate between a mouse and a trackball. 4
(c) Write short notes on the following: 4×2=8
(i) Touch panel (ii) Laser printer
(iii) Projector (iv) OMR
6. (a) Write short note on light-pen and digitizer. 2
(b) What is a scanner? Explain the different types of scanners. 1+5=6
(c) What is a visual display unit (VDU)? Differentiate between CRT and LCD Monitors. 2+4=6

UNIT-IV

7. (a) What do you understand by the term “motherboard” in a computer system? Explain any two components of a motherboard. 1+3=4
(b) Explain the factors that affect processing speed of a computer system. 10
8. (a) Define processor. What is the purpose of using more than one processor in a computer? 1+1=2
(b) What is a system bus? Write three functions of buses in a computer. 1+3=4
(c) Write short notes on the following: 4×2=8
(i) USB (ii) HDMI port
(iii) PC card (iv) System bus

UNIT-V

9. (a) Explain the piconet architecture of Bluetooth technology. 4
(b) Write down the characteristics of big data. 5
(c) Explain the basic structure of embedded system. 5
10. (a) Explain the different categories of cloud computing based on deployment models. 3
(b) Explain the knowledge discovery from database KDD process. 5
(c) Write down any three advantages and three disadvantages in mobile computing. 6