



WEST BENGAL STATE UNIVERSITY

B.Sc. General Part-I Examination, 2020

COMPUTER SCIENCE

PAPER-CMSG-I

Time Allotted: 2 Hours

Full Marks: 50

*The figures in the margin indicate full marks.
Candidates should answer in their own words and adhere to the word limit as practicable.
All symbols are of usual significance.*

Answer any three questions from the following

16×3 = 48

1. (a) What is Flowchart? Write the advantage of flowchart? 2+2
(b) Draw the flowchart to find sum of n numbers. 4
(c) What are the differences between iteration and recursion? Explain with an example. 3+3
(d) What is a super computer? 2

2. (a) What is base of a number system? 2
(b) Construct AND, OR, NOT using NOR gates only. 2×3 = 6
(c) Simplify using k-map in SOP form: 6
$$f(A, B, C, D) = \sum m(1, 2, 4, 5, 9, 10) + \sum d(6, 7, 8, 13)$$
and design a circuit using basic gates.
(d) $(234)_8 = (?)_{16}$ 2

3. (a) What are differences between combinational and sequential circuits? 3
(b) Design a full adder using two half adders. 4
(c) Differentiate between compiler and interpreter. 4
(d) What are the major functions of an operating system? 5

4. (a) Differentiate between Linear Search and Binary Search Algorithms. 5
(b) Write down the algorithm of Bubble sort for ascending order sorting and using your algorithm sort the list 5, 4, 9, 2, 1. 4+2
(c) Differentiate between sequential allocation and linked allocation. 5

5. (a) Differentiate between High Level, Low Level and Assembly Language. 5
(b) What is a von-Neumann Architecture? 5
(c) Make brief discussion on Assembler, Loader and Linker. 2×3 = 6

6. Write short notes on any **four** from the following:

4×4 = 16

- (i) E-mail
- (ii) www
- (iii) Router
- (iv) Satellite
- (v) Optical Fibre Cable
- (vi) Virus

[2 Marks for Neatness]

N.B. : *Students have to complete submission of their Answer Scripts through E-mail / Whatsapp to their own respective colleges on the same day / date of examination within 1 hour after end of exam. University / College authorities will not be held responsible for wrong submission (at in proper address). Students are strongly advised not to submit multiple copies of the same answer script.*

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