RAMAKRISHNA MISSION VIDYAMANDIRA (Residential Autonomous College under University of Calcutta)

FIRST YEAR B.A./B.SC. SECOND SEMESTER (January – June) 2014 Mid-Semester Examination, March 2014

Date : 25/03/2014

COMPUTER SCIENCE (General)

Time : 11 am – 12 noon

Paper : II

Full Marks : 25

[4]

[5]

[Use a separate Answer Book for each group]

Group - A

1.	Answer any one question :	$[1 \times 2^{\frac{1}{2}}]$
	a) What is Big-O notation? Explain briefly.	
	b) What is recursion? Write a recursive algorithm to find the n-th fibonacci number.	
An	swer any one question :	[1×10]
2.	a) What is sorting?	[2]
	b) Explain with pseudocode the bubble sort alogirithm.	[4]
	c) Analyze the worst case complexity of the algorithm.	[4]
3.	a) What is an array?	[2]
	b) Explain with pseudocode the binary search algorithm.	[4]
	c) Analyze the worst case complexity of the algorithm.	[4]
	<u>Group - B</u>	
4.	Answer any one question :	[1×2½]
	a) What is the role of Kernel in operating system? What are the various types of Kernels?	
	b) Describe Resource Allocation Graph in brief.	
Answer <u>any one</u> question :		[1×10]
5.	a) What do you mean by multiprogramming and multiprocessing?	[3]
	b) Describe various process states.	[3]

- b) Describe various process states.
- What are the two models for Interprocess Communication? Explain with proper diagram. c)
- Describe the sufficient and necessary conditions for deadlock. 6. a) b) What is Critical Section Problem?
 - [2] c) Describe Peterson's solution for critical section problem. [3]

80衆Q3