

STELLA MARIS COLLEGE (AUTONOMOUS) CHENNAI 600 086
(For candidates admitted during the academic year 2009–10)

SUBJECT CODE : MT/PE/AP13

M. Sc. DEGREE EXAMINATION, NOVEMBER 2009
BRANCH I - MATHEMATICS
FIRST SEMESTER

COURSE : ELECTIVE
PAPER : ALGORITHMS AND PROGRAMMING
TIME : 3 HOURS

MAX. MARKS : 100

SECTION – A

COMPUTER ASSISTED TESTING

Answer all the questions: (1x30=30)

Answer any five questions: (5x8=40)

1. Define Binary Search and write its algorithm for searching a binary search tree.
2. Explain 8-Queue problems.
3. Explain Divide and Conquer.
4. Explain the working of a heap sort.
5. Define Job Sequencing and solve the following problem let $n=5$ (p_1, \dots, p_5)= $20, 15, 10, 5, 1$ and d_1, \dots, d_5 = $(2, 2, 1, 3, 3)$ using the above feasibility rule.
6. Write a note on traveling salesperson problem.
7. Explain the various selection techniques.
8. Consider the following instructions of the Knapsack problem $n=3$ $m=20$ (p_1, p_2, p_3)= $(25, 24, 15)$ and w_1, w_2, w_3 = $(18, 15, 10)$ what are the solutions.

SECTION – B

PRACTICAL

Answer any two questions: (2x15=30)

1. Write a C program for the algorithm Quick Sort.
2. Write a C program to Calculate the Grade of 10 Students.
3. Write a C program for the algorithm Binary Search.



