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A.P.G.D.C.A./M.Sc. (Computer Sc.)/M.C.A.

1st Semester Examination, January- 2009

PROGRAMMING IN DATA STRUCTURE

Paper-APGDCA-3

Time allowed : 3 hours]

[Maximum marks : 75

Note : Attempt any five questions.

All questions carry equal marks.

1. (a) What is an algorithm ? How is it different from recursive algorithm ? Also discuss its good characteristics with examples.
(b) Develop an algorithm for recursive binary search.
2. Explain the following briefly :
 - (i) Efficiency of algorithms
 - (ii) Benefits of Pseudocodes
 - (iii) Advantages of decision tables.
3. (a) What are functions ? How these are useful in programming ? Explain with suitable examples through C codes.
(b) Differentiate between structure and union in C language with C code segments.
4. (a) What are Pointers ? How these are useful in programming ? Discuss with suitable C codes.

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6. (a) Differentiate between the following :
- (i) Base addressing and Relative addressing 8
 - (ii) Synchronous and Asynchronous Data Transfer. 8
- (b) Which I/O technique is most suitable for heavy data transfer and why ? Illustrate this technique through its schematic diagram. 7
7. (a) What are Array Processors ? What are various types of array processors ? How do they principally differ from each other ? 8
- (b) How does floating-point representation differ from fixed-point representation ? Write down general algorithms for addition and division of two floating-point numbers. 7
8. (a) How does a Crossbar Switch interconnection structure differ from Multi-port Memory interconnection structure ? Illustrate the difference through diagram(s). 8
- (b) Illustrate the difference between Parallel and Serial Interprocessor Arbitration techniques. 7