

MODEL QUESTION PAPER

MFCO1

I Semester M.TECH Examination, August 2011 DATA STRUCTURES AND OBJECT REPRESENTATION

Time: 3 Hours

Max. Marks: 75

GROUP A : Answer any three questions.

- Q.1 What is queue? Explain various operations on queue.
- Q.2 Develop a calling convention & associated procedure to push an item onto stack implemented with Linked list?
- Q.3 Explain Algorithms analysis Worst-Case and Average-Case?
- Q.4 Define worst-case and average case. Explain them.
- Q.5 Explain how dynamics memory allocation works in C.

GROUP B : Answer any three questions.

- Q.6 Explain Clustering in a hash table?
- Q.7 List out various basic heap operations. Explain them in brief.
- Q.8 What is graph? What are the possible operations on graph? Explain.
- Q.9 Write store and retrieve function for a sparse matrix stored in row-major order in a one dimensional array.
- Q.10 What is stack? Explain various operations on stack.

GROUP C : All Questions are Compulsory.

Q.11 Fill in the blanks

- (i) Void is _____ data type.
- (ii) A perfectly balanced tree with n nodes has height _____.
- (iii) The header is also sometimes called as _____ of the list.
- (iv) A _____ is a collection of nodes.
- (v) Stack is _____ memory.

Q.12 Multiple choice question.

- (i) Matrices with a high proportion of zero entries re called _____ matrices.
(a) SPARSE (b) NULL (c) SPLAY (d) None of the above
- (ii) Linked lists are best suitable _____.
(a) Dynamic data storage (b) Compile time data storage
(c) For both of above situation (d) For none of above situation
- (iii) Dynamic memory allocated during _____.
(a) Compilation (b) Execution

- (c) Loading (d) Program writing
- (iv) Which of the following can not be passed to a function?
(a) Reference variable (b) Arrays
(c) Class objects (d) Header files
- (v) Graph is used for _____.
(a) Shortest path (b) Close Circuit
(c) Both (d) None of these

Q.13 True or false

- (i) A pointer is location of some item
(ii) Tree is a GRAPH
(iii) Link list is a table.
(iv) Stack works on FIFO principle.
(v) Queue is a first-in-first-out.
