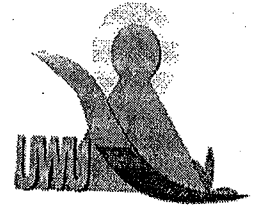


Uva Wellassa University, Sri Lanka
End Semester Examination – Jan/Feb 2011
CST425-2 Advanced Database Management Systems
CST325-2 Advanced Database Management Systems



Time: One (01) hour

PART B

Total 03 questions.

Answer two (02) questions only.

1. Explain 4 of following topics briefly.
 - a) Two-Phase Locking
 - b) Deffered Update
 - c) Timestamp ordering
 - d) Immediate Update
 - e) Multiversioning
 - f) Shadow Paging
2. Draw the serializability (precedence) graphs and identify which of the following schedules is (conflict) serializable?
 - a) $r_1(x); r_3(x); w_1(x); r_2(x); w_3(x);$
 - b) $r_1(x); r_3(x); w_3(x); w_1(x); r_2(x);$
 - c) $r_3(x); r_2(x); w_3(x); r_1(x); w_1(x);$
 - d) $r_3(x); r_2(x); r_1(x); w_3(x); w_1(x);$

For each serializable schedule, determine the equivalent serial schedules.

3. The '*Employee*' file with '*EmpNo*' as key field includes records with the following Part# values: 23, 65, 37, 60, 46, 92, 48, 71, 56, 59, 18, 21. Suppose that the search field values are inserted in the given order in a B+ tree of order $p = 4$. Show how the tree will expand and what the final tree will look like.