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JAYPEE UNIVERSITY OF INFORMATION TECHNOLOGY, WAKNAGHAT
TEST -1 EXAMINATION- February-2020
ii Semester

COURSE CODE: 15M1WCI432 MAX. MARKS:15
COURSE NAME: Advance Computational Technique
COURSE CREDITS: 03 MAX. TIME: One Hours

Note: *Answer any 5 questions, each question is carrying 3 marks.*

1. If $b \perp R(A)$, then proof $Pb = 0$, here P is projection matrix for matrix A.
2. Given set of points (1,2;1) , (2,4;9), and (1,0;-8), these points are related as (x1,x2;y). Here x1,x2 are independent variables and y is dependent variable. Illustrate the linear curve fitting for them.
3. Explain the idea along with pseudo code for modified gram-Schmidt method.
4. How could we get QL decomposition by Householder method? Here L and Q are lower triangular and orthogonal matrix respectively.
5. Proof $Ha = r$, here H is householder matrix and r is the reflected vector of a.
6. Illustrate the derivation of Givens rotational algorithm for QR decomposition of m cross n matrix with the help of block diagonal matrix form.
7. If $Q = Q_1 \times Q_2 \times \ldots \times Q_n$, then proof Q is orthogonal matrix, here $Q_1, Q_2, \ldots, Q_n$ are orthogonal matrices.