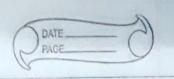
Dr. Priya Dubey (Guest Lecturer)

School of Studies in Physics, Vikram University, Ujjain

Lecture for M.Sc. Physics IV Semester students

Paper – III Advanced Quantum Mechanics – II

Unit- II: Born approximation



Criterion (Condition) for Validity of Born

The Born Approximation will be hold

good only when the wave function of
is not much different from the Procidest wave function eight . It implies

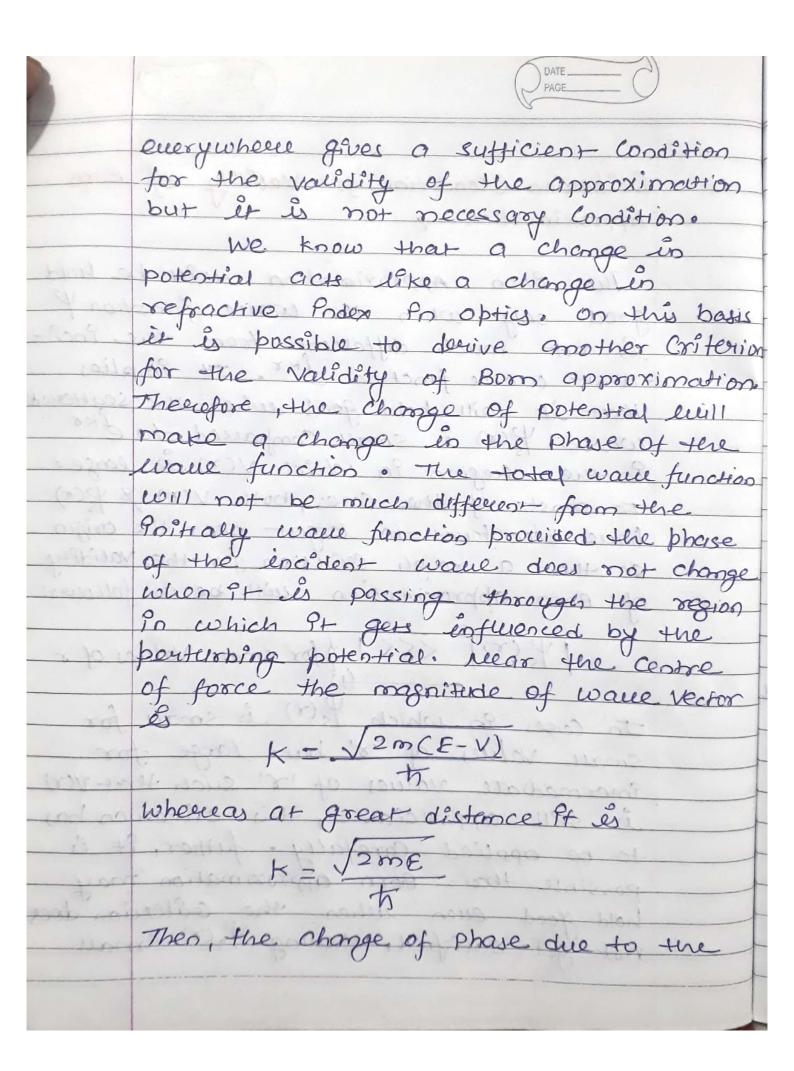
that it will hold food when the scattered
wave for is small compared to ekt

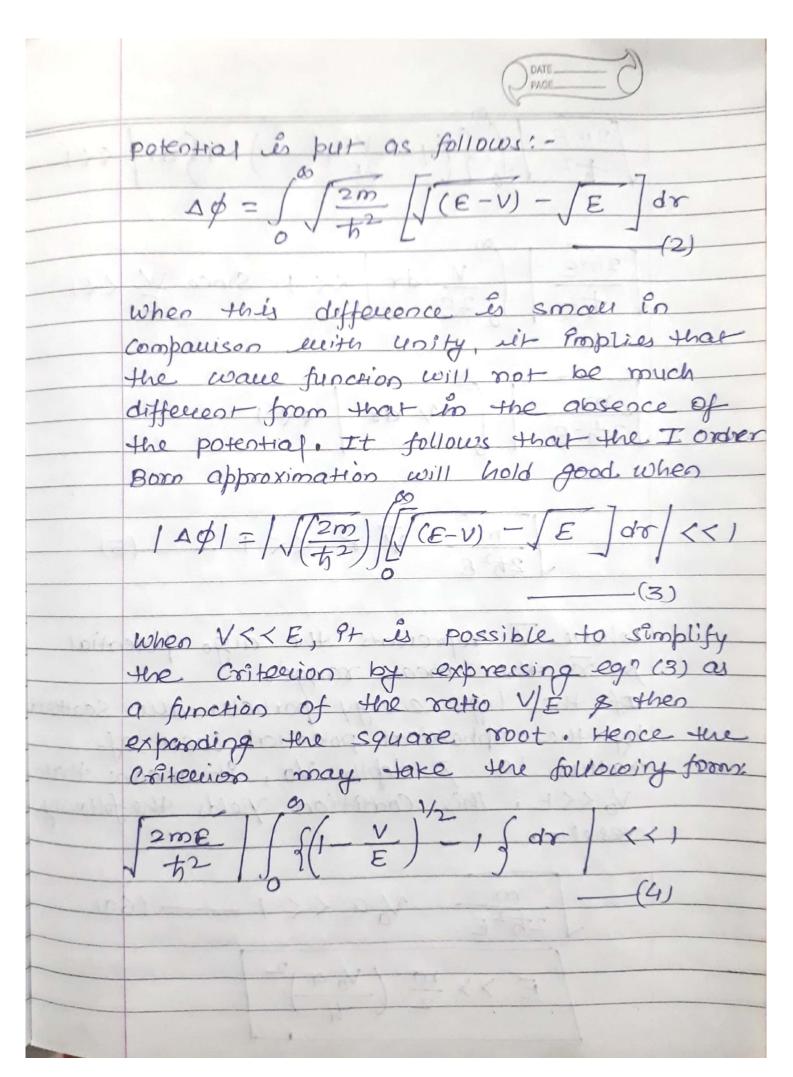
Po the engion in which V(t) is large o

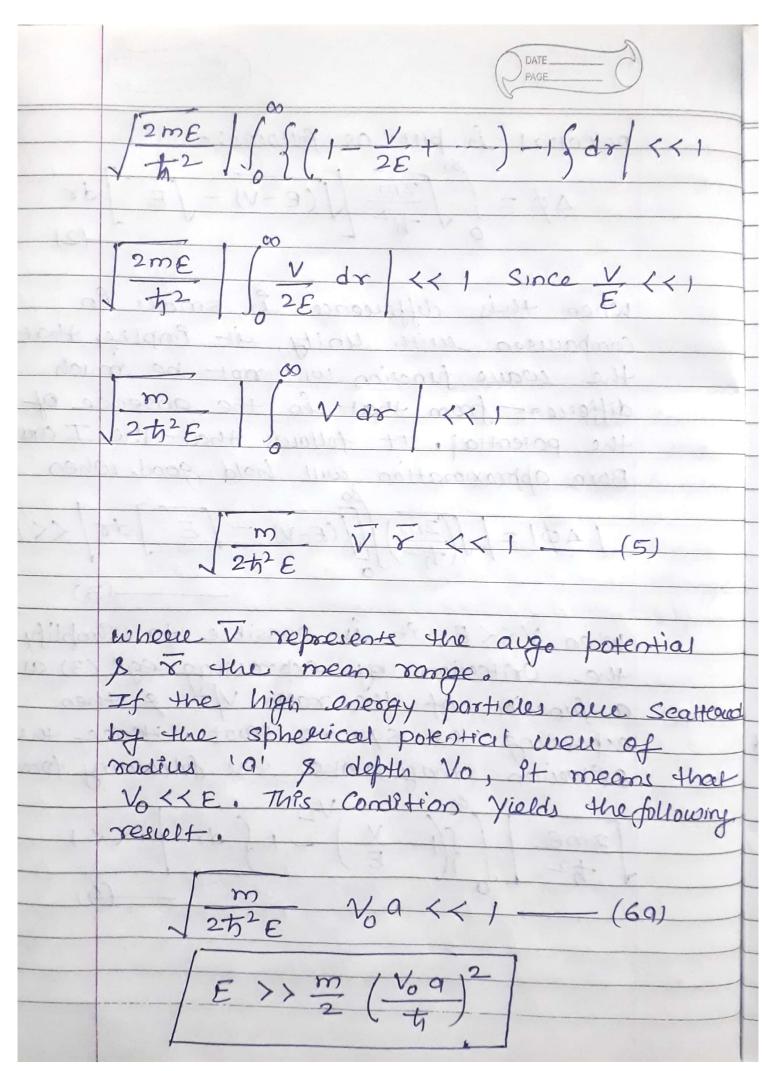
To most of the Cases, both V(t) & for
have been found to largest near the origin
so that a rough criterion for the validity
of Born approximation will be as follows:

14 (r) 2 <<< 1 for small values of r

In Cases on which (s(r) is small for small values of '8' but large for of the values of '8' such that V(r) is still appreciable, this critacion has to be applied Carefully. Jutter, it is possible that Born approximation may hold good even when the offerior does not get satisfied. Hawing 4.(8) small







Scanned with CamScanner