MIND MAP: LEARNING MADE SIMPLE CHAPTER - 11 Features of vector EcoR I Cla I Hind III • rDNA Pvu I Increased • Gene cloning surface area for Acid\Base for pH control • Gene transfer pBR322 oxygen Principles of Genetic San Steam for • Has Ori Flat bladed sterilisation 0 • Has Selectable Markers pBR 322 Pvu II Bubbles • Has fewer cloning sites Competent host broth dramatically increase the oxygen ansfer area Host is made competent by: Obtaining foreign gene Simple stirred -tank Cell are bombarded products by bioreactors bioreactor and Sparged pathogen vector stirred-tank bioreactor with high velocity Disarmed Micro injection micro particles of gold or tungsten coated with DNA Restriction Enzymes Obtaining foreign gene rDNA is directly injected product by bioreactors. processes of rDNA Biotechnology: into the nucleus of an Trinciples and animal cell Technology Transfer of rDNA into the Host cell Processes Vectors like *Agrobacterium* when infects the cell Cutting of DNA at specific transfer the recombinant DNA into the host locations by restriction enzymes. It is the integration of natural science and organisms, cells, The enzyme cuts both DNA strands at the same site Amplification of gene by PCR parts thereof, and molecular Vector DNA analogues for product and 3' ds DNA services. **♦** Heat Denaturation 1.5<u>1.1.3</u>1.1.1.1.5 Cut DNA fragments are DNA polymeras separated by Gel electrophoresis. 131111151 Extension 151 31 51 ↓ 30 Cycles