**Genetic Engineering** (p. 228 – 237)

**I. Basics Steps Of Genetic Engineering**

**1. What achievement did Stanley Cohen & Herbert Boyer attain in 1973?**

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**2. Define the term genetic engineering.**

Genetic Engineering –

**3. Match he following terms with the correct definitions.**

1. \_\_\_\_\_\_\_\_ Recombinant DNA A. Agent used to carry a gene of interest

2. \_\_\_\_\_\_\_\_ Restriction Enzymes B. Circular rings of DNA in bacteria

3. \_\_\_\_\_\_\_\_ Vector C. DNA made from two or more different organisms

4. \_\_\_\_\_\_\_\_ Plasmids D. Many copies of a gene are made

5. \_\_\_\_\_\_\_\_ Gene Cloning E. Bacterial enzymes; cut and bind DNA sequences

**4. List the four steps of genetic engineering.**

1. \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

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**II. Confirmation Of A Cloned Gene**

**1. List the steps of Southern Blot gene testing.** *(Gel Electrophoresis)*

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**III. The Human Genome Project**

**1. Define the term Human Genome Project.**

Human Genome Project –

**2. In what year was the Human Genome Project published?** \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

**3. A large amount of DNA does not encode proteins.**

Circle One : True False

**4. Differentiate between introns and exons.** (p. 218)

Introns : \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

Exons : \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

**5. How many genes does a typical human cell contain?**

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**IV. Genetically Engineered Drugs & Vaccines**

**1. List six types of genetically engineered medicines and their uses.**

Medicine Use

1. \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

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6. \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

**V. DNA Fingerprinting**

**1. Define the term DNA fingerprint.**

DNA Fingerprint –

**2. How are RFLPs used to create DNA fingerprints?**

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**3. List three uses of DNA fingerprinting.**

1. \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ 2. \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ 3. \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_