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**MATRIC NUMBER: 18/MHS07/006**

**DEPARTMENT: PHARMACOLOGY**

**COURSE CODE: PHA 210**

**Question
Explain the applications of DNA fingerprinting in Medical Biotechnology.**

DNA fingerprinting is a chemical test that shows the genetic makeup of a person or other living things. It’s used as evidence in courts, to identify bodies, track down blood relatives, and to look for cures for disease.

Your Genetic Map

DNA is short for deoxyribonucleic acid, which is inside of every cell in your body. It’s a chain of chemical compounds that join together to form permanent blueprints for life.

These compounds are called bases, and there are 4 of them. They pair up with another to form what are called base pairs. Your DNA has about 3 billion of these couples. The way they’re strung together tells your cells how to make copies of each other.The complete set of your compounds is known as a genome. More than 99.9 % of everyone’s genome is exactly alike (100% if you are identical twins). But the tiny bit that’s not is what makes you physically and mentally different from someone else.

DNA fingerprinting uses chemicals to separate strands of DNA and reveal the unique parts of your genome. The results show up as a pattern of stripes that can be matched against other samples.

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Uses

Since it was invented in 1984, DNA fingerprinting most often has been used in court cases and legal matters. It can:

Physically connect a piece of evidence to a person or rule out someone as a suspect.

Show who your parents, siblings, and other relatives may be.

Identify a dead body that’s too old or damaged to be recognizable.

DNA fingerprinting is extremely accurate. Most countries now keep DNA records on file in much the same way police keep copies of actual fingerprints.

It also has medical uses. It can:

Match tissues of organ donors with those of people who need transplants.

Identify diseases that are passed down through your family.

Help find cures for those diseases, called hereditary conditions.

Fingerprint Test

To get your DNA fingerprint, you would give a sample of cells from your body. This can come from a swab inside your mouth, from your skin, the roots of your hair, or your saliva, sweat, or other body fluids. Blood is usually the easiest way. Lab workers treat the sample with chemicals to separate the DNA, which is then dissolved in water.

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What Is DNA Fingerprinting?

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Breaking free from an addiction to prescription drugs takes more than willpower. Learn more from WebMD about the medications and types of counseling that can help get someone on th

Your DNA is cut into smaller segments with another chemical process to get sections of 5 to10 base pairs that repeat themselves. Technicians copy those tiny sections millions of times to make the samples longer for easier study.

Lab workers take those strips of DNA and mix them into a gel. Then they run an electric current through the gel, which separates smaller strands of DNA from the larger ones. A dye added to the gel makes the DNA strips stand out when they’re placed against an ultraviolet light or lit up with a laser.

The more these short segments are tested, the more accurate the DNA profile will be. The strips will show a barcode-like pattern that can then be compared to the results from another sample of DNA to find a match.