MRI (Magnetic Resonance Imaging) works by using a strong magnetic field and radio waves to generate detailed images of the body's internal structures.o Technologists can adjust the contrast of images by modifying TR (repetition time) and TE (echo time) parameters.Step 3: Radiofrequency (RF) Pulse Application o The MRI machine sends a radiofrequency pulse that disturbs the alignment of hydrogen protons.Step 5: Data Processing (Fourier Transform) o The signals collected from the body are processed using Fourier Transform, which converts them into an image.Step 2: Magnetic Field Alignment o The MRI machine contains a powerful magnet (usually 1.5T or 3T in strength) that creates a strong magnetic field.Step 4: Relaxation and Signal Detection o Once the RF pulse is turned off, the hydrogen protons return to their original aligned state (a process called relaxation).o The time it takes for the protons to relax is measured using two parameters: o T1 relaxation time – when protons realign with the main magnetic field.o Different tissues return signals at different rates, allowing for the creation of contrast in the image.o T2 relaxation time – when protons lose phase coherence with each other.?????