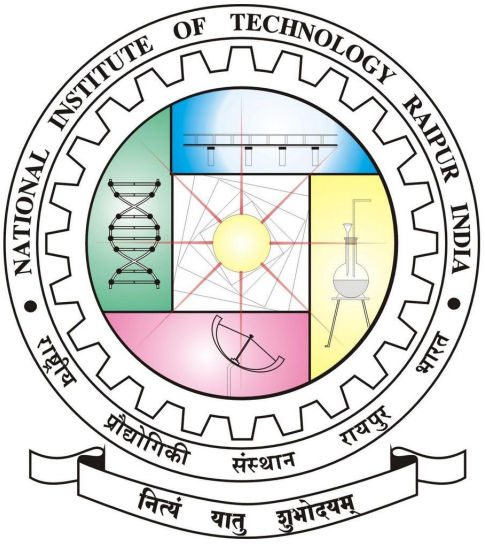

National Institute of Technology
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assignment 05

Emerging Technology

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First Semester
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1 Emerging Technologies in Healthcare

1.1 INtroduction:-

Understanding what makes a technology emerging is imperative to discerning past, present, and future in the development of technological innovations. Before delving into the specific ETs in healthcare, it is imperative to define what the words mean both individually and cohesively. Specifically, it is important to identify what each word represents and how they have been synthesized to become relevant in this text's focus, as well as their use to optimize nursing care delivery in the industry of healthcare. Knowledge of multiple definitions, many still evolving due to the speed at which technologies are developing and implemented, is needed to begin to explain what ETs are, as well as denote their business presence and value, complexity, misconceptions, and acceptance.

1.2 Five Emerging Technologies Changing the Landscape

1. AI: A greater adoption of AI can revolutionize the entire healthcare industry. AI usage within the healthcare industry was estimated to grow exponentially and investments in this space could reach USD 6.6 billion by 2021. AI can be applied in multiple, diverse ways—in operations to identify high-risk patients and also to automate medication reminders and dosages.

2. Blockchain: This technology is expected to completely transform the collection and storage of medical history. Not only it would be easier to store information and access it through blockchain, but security threats would also be minimized. It would allow doctors to access the entire medical history of a patient, including any genetic illnesses and allergies, allowing them to customize treatment to provide the best possible care. The concept of blockchain for healthcare is still under development.

3. Robotics: Robots were used medically for the first time in 1985. Since then, their role has expanded in this sector. The revenue generated in this segment is expected to reach USD 2.08 billion in 2021. Robots are mostly used in surgeries and to some extent in procedures such as laparoscopy, neurosurgery, orthopedic surgery, emergency response, and minimally invasive operations.

4. 3D bioprinting: Another technological innovation for the healthcare space is 3D bioprinting. The global bioprinting market could have investments of almost USD 1.8 billion by 2027. With the help of DNA analysis, bio-printing can regenerate and replace several body parts, bones, and tissue.

5. Nanotechnology: Nanotechnology for the healthcare space has been under development for a long time now. It studies molecular structure to develop precise devices and medicines. Some of developments using nanotechnology include nanorobots and nanomedicines.

1.3 Technology Changing Healthcare

Technology is changing every aspect of our lives – and it's making dramatic transformations in the healthcare industry, too. New advances in robotics, analytics, and scanning systems are making surgeries more precise and accurate. Robots are also helping hospitals lower their costs. Digital dispensation programs are being developed to make it easier and faster for prescriptions to be filled on time and with the correct dosage. And communications systems make it faster for patients to get in touch with their physicians. Here's how these advances are changing medicine for the better.