

extracellular matrix to provide structural support to the newly formed tissue, with the combination of polymer porous polyetherimide and calcium phosphate scaffolds for bone tissue regeneration.

**Keywords:** Green synthesis, Gallic acid, Chitosan, nanoparticles, scaffold.

### **IMPLEMENTATION OF SMART PILL BOX PROTOCOL FOR CONSUMPTION AND AUTO COMPLETION PROCESS FOR MEDICAL APPLICATIONS USING IOT**

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It is essential to take the right medication at the right time to be healthy, yet failing to do so might cause a patient serious problems. Elderly adults who struggle to remember to take their medication would particularly benefit from this. Yet, just two out of every fifty people utilise assistive automation today since it is expensive, there is a lack of knowledge about it, and it is not widely available. To overcome this we made this Smart Pill Box which will remind the affected person to take right medicinal drug at the right time. Today's human being life cycle is busy, there is no one to remind to take medicines. This research focuses on the development, design, and construction of a prototype pillbox that addresses this medical need by automatically sorting pills. Patients who regularly take prescriptions or vitamin supplements, as well as carers who work with more experienced patients, are the primary target audience for this medication pill box. In the suggested technique, the sensors and communication devices are interfaced with using an Arduino MEGA microcontroller. The integrated circuit known as the Real-Time Clock (RTC) measures time. The force sensor used for the patient will be take the tablet. The Liquid Crystal Display (LCD) is used to update the latest information of the patient. The level of the pill box is measured using an ultrasonic sensor. The Internet of things (IOT) module is used to update the information to the cloud which can be accessed. The Auto Playback Recorder (APR) voice module used for intimation. SMS messages are sent to attendants, carers, or medical supply stores via the Global System for Mobile Communication (GSM) module. The pillbox uses sound to remind customers or patients to take their medications once the pill time has been established.

**Keywords:** Healthcare, IOT, Pill box, RTC, Force sensor, Medicinal Reminder, LCD, Ultrasonic sensor.

### **SEGREGATION OF BIOMEDICAL WASTE BY CONVEYOR MECHANISM USING DEEP LEARNING TECHNIQUE**

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