INNOVATIONS BY THE FACULTY IN TEACHING AND LEARNING

For effective teaching – learning process, following innovations are adopted by the faculties of Civil engineering Department.

1. Use of modern teaching tools like LCD projectors and computer systems with internet facility in classrooms and labs.
2. Involving students of various semester to carry out AICTE activities.
3. Visit to nearby Industries related to biotechnology
4. Organizing technical talks.
5. Model making competition.
6. Final year students are encouraged to take up project works related to societal needs.
7. Final year students are encouraged to give technical seminar on current trends in Engineering and Technology by referring the journal papers.
8. Explaining the concepts through NPTEL video lectures.
9. Explaining real world examples in class.
10. Providing laboratory manuals for better understanding of the experiments.
11. Taking tutorial / special classes.

Bapuji Educational Association ®
Bapuji Institute of Engineering and Technology, Davangere–577 004
Department of Biotechnology

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Innovative products developed in the department

S.No	Developed by	Description
1	Dr.Manjunath N.S Dr.B.E.Rangaswamy	**Year: 2022** Developed **"Natural and cost effective Biodegradable Sanitary Pads, Adult Diapers and Bandages using areca nut fibres"** in association with Grasim Industries, Harihar and Maganahalli Ratna enterprises, Davangere under the Projects sponsored by NAIN, Government of Karnataka and Karnataka State Council for Science and Technology. Sanitary pads, Adult diapers and bandages are prepared using naturally available areca husk fibres made into pulp treated at various levels in combination with other materials. Sanitary pads are found to have encouraging results and cost-effective as well. As the products developed are from natural sources, bio degradable and eco-friendly, which meets the demand of good environment and sustainability. Further research is required to come up with a better-quality product of commercial grade.  **1.Sanitary Pad**  **2.Adult Diaper**  **3. Bandage**
2	Chandukishore T Dr.B.E.Rangaswamy	**Year: 2021** Developed Pesticidal Vermiwash under the Project "**Pesticidal Vermiwash from selected medicinal plants"** in the department sponsored by NAIN, Government of Karnataka and Karnataka. The vermiwash product developed using selected medicinal plants extract, namely orange peel, Aloe Vera leaf, Chrysanthemum flower, Oxalis corniculata, Lemongrass, Tridax procumbens,Nerium oleander. These selected medicinal plants have more antimicrobial property, rich in nutrients, growth hormones, enrich the soil fertility, pesticidal property, and also have property of fertilizer. The developed product results are more equivalent to standard values from this discussion, it is concluded that vermiwash is the important organic source of nutrients for improving the growth, yield. This organic source not only increases the yield but also improves the soil fertility, soil

		structure and texture, promoting plant growth and resistance against various pests, diseases. In this context use of organic sources of nutrients in crop production is becoming very crucial for assurance of food security, sustainability and improving soil health. As per the future aspects this technology has entrepreneurial opportunities are high and waste management is been challenging in Indian scenario commercialization of product prepared is high if practiced and produced in a systematic procedure. Vermiwash revealed the potential application in sustainable development of agriculture with respect to its origin, cost effectiveness, easy availability, time saving, reproducibility & eco-friendly.  **Vermiwash-Nisarg poshak**
3	Vasudeva Nayaka K B L	**Year: 2020** Developed Environmental friendly Particle boards under the project "**Pulverized Maize Cob as a Recycled Agro Waste - To develop Environmental friendly Particle boards"** The global market for wood-based furnishings annually increases despite of decreasing availability of wood resources, especially in forest lacking regions, leading to the specific urge to search for alternatives. Agricultural residues are materials generated in large quantities and can accumulate at such an extent as to cause environmental problems. Maize cob powder was taken and mixed with Epoxy (Resin) and Hardener was added; the mixture was then molded into a frame and pressed for uniform surface and kept for air dry for 24 hours. Then the particle board was tested for its mechanical tests like tensile strength test, compression test, bending strength test were experimented.  **Particle boards**