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Abstract: This paper deals with the problem of module allocation (i.e., to which processor should each task of an application be assigned) in heterogeneous distributed computing systems with the goal of maximizing the system reliability. The module assignment problem for more than three processors is known to be NP-hard, and therefore satisfactory suboptimal solutions obtainable in an acceptable amount of time are generally sought. We propose a new intelligent technique based on dynamic module allocation which uses greedy search algorithm for this problem. Performance of the algorithm depends on number of modules, number of processors, and the ratio of average communication time to average computation time and module interaction density of application. The effectiveness and efficiency of our algorithm is compared with recently proposed module allocation algorithms for maximizing system reliability available in literature.

Keywords: Module assignment, Distributed computing, Reliability, Dynamic Greedy heuristic, Module interaction graph.

References:
pedestal cell was thick, which extended till the base of the terminal or arm cell. The middle layer was highly impregnated with opaque materials and fibrils. The innermost layer was not impregnated with variously shaped electron translucent numerous vacuoles filled with granules. The pedestal and basal cells were interconnected with plasmodesmata.

**Keywords:** Utricularia, Ultrastructure, Digestive gland, Vacuole, Pedestal cell

**References:**


**Authors:** Shiri T, Makota T

**Paper Title:** Status of Biogas Technology in Swaziland: Challenges and Opportunities

**Abstract:** This paper serves to investigate the status of biogas energy including challenges and opportunities in the Kingdom of Swaziland. Increasing regional energy demand coupled with increased climatic challenges against depleting fossil fuels has seen a number of countries turning to renewable sources of energy to augment the current supply. These include solar, wind power, biomass, geothermal and hydro electric power. Swaziland has adopted some of these renewable energy interventions to meet its own energy needs and curb climatic issues. During the study period, it was discovered that there are less than twenty biodigesters across sectors at national level. Despite a strong biomass base, positive regional experiences and favourable climatic factors, the growth of biogas technology industry remains partially stagnant primarily due to shortage of local skilled, experienced project developers and weak policy emphasis. This paper recommends the relevant stakeholders in the renewable energy sector to establish a national biogas programme by exhausting regional experiences. This will help to immediately reduce over reliance on wood fuel, paraffin and LPG, improve energy security, reduces electricity costs to the consumer and lower the energy import bill.

**Keywords:** Biogas, challenges, opportunities, status

**References:**

3. Energy Department, Ministry of Natural Resources and Energy (2014), Swaziland Households Energy Access, Mbabane.
Abstract: Research of characterization physicochemical of Emulsion Solid Cooking Oil from Coconut Oil has been performed. The measurement using analysis parameter of water content, free fatty acids, peroxide value, and hardness test. Method of used water content (AOAC,1995), free fatty acids (AOCS Official Method Ca 5a-40 1993), and peroxide value (AOCS Official Method Cd 8-53 1993), and hardness test using universal machine testing. The characterization result of emulsion products of solid cooking oil toward the water content in the range of 0.04-0.09%, free fatty acids from 0.28 to 0.49%, and peroxide value in the range 0.61 to 0.74 mg O2/100 g. And the result of hardness test solid cooking oil emulsion product is in the range from 8.4942 to 15.7444 gf/cm2. Thus the solid cooking oil products produced meet the criteria of margarine and shortening.

Keywords: coconut oil, solid cooking oil, emulsion, and physicochemical

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