Foreword and Editorial

International Journal of Advanced Science and Technology

We are very happy to publish this issue of an International Journal of Advanced Science and Technology by Science and Engineering Research Support Society.

This issue contains 6 articles. Achieving such a high quality of papers would have been impossible without the huge work that was undertaken by the Editorial Board members and External Reviewers. We take this opportunity to thank them for their great support and cooperation.

The paper “Cold Chain Logistics Distribution Network Planning Subjected to Cost Constraints” analyzes the cold chain logistics distribution network planning which is subjected to cost constraints, and establishes a cold chain logistics distribution network model by minimizing the total operation cost. The model is verified through a vegetable firm case in which series of constraint conditions are used to represent the relationship between the various decision variables. The verification results demonstrated the proposed model is capable and effective to solve the distribution problem. Moreover, makes a network planning for Shanghai vegetable logistic distribution, and through some actual survey data and calculation proves the model is effective.

Paper “Site Directed Mutagenesis, Molecular Cloning and Expression of interleukin-17E to Generate Structural Variant with Enhanced Specific Activity Using Industrial Friendly Salt Inducible Escherichia coli GJ1158” carried out bioactive recombinant mutated human IL–17E (rhIL–25) was synthesized using overlapping PCR strategy and amino acid mutations using site directed mutagenesis. Four cysteins at 78th, 83rd, 136th and 138th positions were involved in disulphide bond formation and were responsible for biological activity of mature protein. These four cysteins were replaced with serine using nucleotide substitution and the desired outcome was cloned into expression vector pRSET-A followed by expressed in a salt inducible Escherichia coli GJ1158. The transformants were selected by ampicillin resistance marker and also by DNA sequencing. SDS–PAGE analysis confirms 17.06 kDa purified protein against low molecular weight protein marker. Protein quantification was carried out using Lowry’s method. Approximately 104 mg/L of recombinant IL–17E was produced at 37 0C. Biological activity of protein was determined by the release of IL–6 from PBMC cells using rhIL–17E. This is the first report on production of interleukin-17E structural variant with enhanced specific activity without compromising the biological activity.

In the paper “Design and Implementation of an Automatic Voltage Regulator with a Great Precision and Proper Hysteresis” aims at the designing and implementation of an Automatic Voltage Regulator (AVR) with higher precision and hysteresis. AC power supplied by PDB (Power development board) in Bangladesh is subjected to variation from time to time. Moreover in rural areas supplied voltage remain lower than specified most of the times. This poses a considerable threat to the sophisticated electronic devices like computer, refrigerator, television etc. So ensuring the input voltage to remain in a tolerable pre-specified limit has become a necessity in rural as well as some urban areas. Current systems available locally
lacks precision and suffers the problem of oscillating between two output voltage and hence creating surge at the output which can damage valuable electronics.

This paper “A Review of Value Based Software Engineering and its Impacts” discussed different value based software techniques and their usability in software industry. The software or component reusability is the fastest way of delivering software product to intended customer or market; it provides a handsome amount of savings to any organization in term of money, time and other resources. Tailoring value based processes according to different business condition can also improve the quality of product and productivity. Now-a-days determination of stakeholder value of the product is very critical for any software success so for this purpose empirical research and cost-benefit processes are used. Software pricing is also the most important factor as it depicts the profit or loss of the company so it should be prepared very carefully according to the customers or stakeholder's value perception of the product as there are various kinds of customers so pricing policy should be applied accordingly.

The paper “A New Plasticity Model for Concrete in Compression Based on Artificial Neural Networks” proposed a new approach to investigate the characteristics behavior of concrete under uniaxial and biaxial compression using the theory of plasticity. This approach is based on artificial neural networks (ANNs), especially radial basis function (RBF) in conjunction with the models of theory of plasticity. The main advantage of the proposed approach is to estimate the quality of the results with accuracy equivalent to the experiments. Another advantage of the proposed ANNs models are that it takes into account the uniaxial as well as the biaxial compression strain. The proposed models were evaluated against several experimental results available in the open literature for the behavior of the force and deformation of the two types of compression tests. Good agreement has been found between the models and those presented elsewhere.

In the paper “Study of Coated TiN and TiC on Cutting Tools for the PVD and CVD Coated Tungsten Carbide by Sand Blasting Pretreatment of Nickel and Carbon” describes the development, Mechanical, Tribological performance of Nano material coating of TiN,TIC, on Tungsten Carbide cutting tool. The Mechanical, Tribological properties of TiN,TIC, are to be compared with uncoated Tungsten carbide cutting tool. And also different coating methods like Chemical Vapour Deposition, Physical Vapour Deposition Method, can be used for comparison.The present work will help to find the tool life and wear behaviour of the each coated tool and it will help to find the best tool coating applicable for the cutting tool.

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