MECH News-2018

2018 - Volume 2
Issue - Research edition

Research publications/activities of the Department of Mechanical Engineering
Jamia Millia Islamia, New Delhi - 110025 (INDIA)

Research Publications of Faculty Members, Research Scholars, B. Tech. & M. Tech. students of the Deptt of Mechanical Engineering, Faculty of Engineering and Technology, Jamia Millia Islamia, New Delhi

Dargar A, Hasan A, Khan R A (2009) "A method of identification of kinematic chains and distinct Mechanisms" Computer Assisted Methods in Engineering and Science. Vol. 16.

Abstract

A new method is proposed to identify the distinct mechanisms derived from a given kinematic chain in this paper. The kinematic chains and their derived mechanisms are presented in the form of a flow matrix. Two structural invariants, sum of the absolute values of the characteristic polynomial coefficients (SCPC) and maximum absolute value of the characteristic polynomial coefficient (MCPC) are determined using the software MATLAB. These invariants are used as the composite identification number of a kinematic chain and mechanisms and clearly identify the distinct mechanisms derived from the family of 1-F, 8-links and 10- links KC as well as 2-F, 9-links simple joined KC. This study will help the designer to select the best possible mechanism to perform the specified task at the conceptual stage of design. The proposed method does not require any test for isomorphism separately. Some examples are provided to demonstrate the effectiveness of this method.

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Gangil N, Siddiquee A N , Maheshwari S (2017) "Aluminium based in-situ composite fabrication through friction stir processing: A review" Journal of Alloys and Compounds. Vol. 715, pp. 91-104.

Abstract

Aluminium metal matrix composites (AMMCs) are the fastest developing materials for structural applications due to their high specific weight, modulus, resistance to corrosion and wear, and high temperature strength. In-situ processing is preferred over ex-situ processing approach for producing fine and thermodynamically more stable reinforcements, but issues related to defects such as porosity, particle clustering etc. are always there in fabrication of AMMCs through conventional methods. Friction Stir Processing (FSP) has evolved as a promising surface composite fabrication technique mainly because it is an eco-friendly and solid-state process. Synthesizing reinforcing particles in aluminium matrix through FSP is more attractive than conventional AMMCs fabrication because intense plastic deformation during FSP not only synthesises the reinforcement phase in the matrix in-situ it also shears and diffuses the particles and progress the reaction between aluminium and added particles rapidly. This article addresses the current status of in-situ AMMCs fabrication through FSP technique. The objective of this article is to review and summarize various systems of in-situ AMMCs fabrication such as Al- Transition metals (TM), Al- Metal oxides (MO), and Al-Salt reaction systems, at various operating conditions and FSP parameters and their effects on resultant microstructure and final properties. This review article will be useful to academicians, researchers and practitioners as it comprises significant knowledge pertaining to AMMCs using FSP.

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Abidi M H, Al-Ahmari A M, Siddiquee A N, Mian S M, Khan M , Rasheed M S (2017) "An Investigation of the Micro-Electrical Discharge Machining of Nickel-Titanium Shape Memory Alloy Using Grey Relations Coupled with Principal Component Analysis". Metals 2017. Vol. 7. https://doi.org/10.3390/met7110486

Abstract

Shape memory alloys (SMAs) are advanced engineering materials which possess shape memory effects and super-elastic properties. Their high strength, high wear-resistance, pseudo plasticity, etc., makes the machining of Ni-Ti based SMAs difficult using traditional techniques. Among all non-conventional processes, micro-electric discharge machining (micro-EDM) is considered one of the leading processes for micro-machining, owing to its high aspect ratio and capability to machine hard-to-cut materials with good surface finish.The selection of the most appropriate input parameter combination to provide the optimum values for various responses is very important in micro-EDM. This

article demonstrates themethodology for optimizing multiple quality characteristics (overcut, taper angle and surface roughness) to enhance the quality of micro-holes in Ni-Ti based alloy, using the Grey–Taguchi method. A Taguchi-based grey relational analysis coupled with principal component analysis (Grey-PCA) methodology was implemented to investigate the effect of three important micro-EDM process parameters, namely capacitance, voltage and electrode material.The analysis of the individual responses established the importance of multi-response optimization. The main effects plots for the micro-EDM parameters and Analysis of Variance (ANOVA) indicate that every parameter does not produce same effect on individual responses, and also that the percent contribution of each parameter to individual response is highly varied. As a result, multi-response optimization was implemented using Grey-PCA. Further, this study revealed that the electrode material had the strongest effect on the multi-response parameter, followed by the voltage and capacitance. The main effects plot for the Grey-PCA shows that the micro-EDM parameters "capacitance" at level-2 (i.e., 475 pF), "discharge voltage" at level-1 (i.e., 80 V) and the "electrode material" Cu provided the best multi-response.

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Babu P V S, Kumar A, Shihab S K, Siddiquee A N (2017) "An investigation on Effects of End Milling process on Noise during Machining of Copper". International Journal of Scientific & Engineering Research. Vol. 8, pp. 119- 124

Abstract

This paper presents an investigation of noise level during fillet end milling operation on commercially pure copper using CNC vertical milling machine. The most critical process parameters such as semi finish spindle speed (rpm), semi finish feed (mm/min.), finish depth of cut (mm) and finish feed (mm/min.) are taken into consideration to reduce the noise level during machining. The Taguchi method was used to perform systematic experimentation through L9 orthogonal array. According to the study, the noise level (in dB) is considered as lower-the-better. The signal to noise ratio (S/N ratio) and analysis of variance (ANOVA) were employed to analyse the effect of milling parameters on noise level in milling process. The contributions of each process parameters to obtain the required output characteristics were studied. Results revealed that the depth of cut of finish is the dominant factor affecting noise level.

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Muzakkir S M, Kumar D (2017) "Analysis of a magnetorheological brake with a single low carbon steel disc using ANSYS". International Conference on Innovative Mechanisms for Industry Applications (ICIMIA). DOI: 10.1109/ICIMIA.2017.7975558

Abstract

The use of smart materials technologies is becoming popular in different engineering systems due to easy and effective control over their actuation, sensing and control. The Magnetorheological Fluids is one such smart material that is being employed in various engineering systems like shock absorber in a suspension system of a vehicle, engine mount system, impact dampers, unidirectional, bi-directional & torsional brake systems, fan clutch, seat damper, various haptic technologies etc. The Magnetorheological Brake (MRB) is by far the most popular application of MRF. The present research work aims to investigate the effect of using a single low carbon steel disc on the braking performance of Magnetorheological Brake (MRB) using finite element method.

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Khan N Z , Khan Z A , Siddiquee A N , Al-ahmari A M , Abidi M H (2017) "Analysis of defects in clean fabrication process of friction stir welding" Transactions of Nonferrous Metals Society of China. Vol. 27, pp. 1507-1516.

Abstract

Striving for cleaner production is a sought-after manufacturing philosophy. Friction stir welding (FSW) is a joining technique with par excellence and far less invasive to the environment than even best conventional welding processes. It is energy efficient and free from consumables, affluent and radiations. It is, thus, accepted as a clean welding process that can produce acceptable quality joints. It suffers from some major challenges of defects of its own kind that subject the process open to improvements so as to prove itself a reliable production process. This study presents a holistic characterization of defects commonly found in FSW joints. The finding of the present study reveals that most defects are caused by inadequate heat generation, improper material movement around the pin and inadequate material consolidation behind the pin. The amount of heat generation and material stirring depends on several FSW parameters which may lead to the defect formation, if not selected properly. The results reported in this work are derived from sound literature support and experimentation. Prescriptions are made in the form of characteristics of defects such as likelihood of their location, main responsible parameters along with the recommendations for minimizing them.

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Asjad M, Khan S (2017) "Analysis of maintenance cost for an asset using the genetic algorithm". International Journal of System Assurance Engineering and Management. Vol. 8. https://doi.org/10.1007/s13198-016-0448-9

Abstract
Nowadays, almost every firm focuses to beat the global competition across the worldwide. In order to deal with such situation, companies are undertaking efforts to improve the productivity of their products but at the minimum possible cost. Asset management is one of the ways to enhance the productivity under cost constraint which may also be seen as the management strategy for different the phases of asset life cycle. Operations and maintenance is one of the important phases of asset life cycle that can be focussed to improve the productivity. This phase may extend the equipment life, improves availability and retains them in healthy positions. But at the same time, frequent maintenance actions may increase the maintenance cost thereby increase the life cycle cost of a product. The maintenance cost only includes the preventive and corrective maintenance cost and which may in-turn depend upon the scheduled maintenance interval. Thus, a trade-off between maintenance actions and operational objectives (i.e. availability, etc.) is required to minimize the maintenance cost. In this paper, the genetic algorithm is applied to optimize the maintenance cost for higher performance (i.e. availability). A case study is taken into consideration for implementing the GA to optimize the objective function. The three different cases are presented, in the first case, subassemblies are repaired during maintenance action(s); in the second case subassemblies are repaired in preventive maintenance action and while replaced in corrective maintenance action; in the last case, the subassemblies are replaced in both kind of maintenance. In order to check the robustness of the solution, the sensitivity analysis is also performs and that validates the strength of the solution methodology.

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Rathee S , Maheshwari S , Siddiquee A N , Srivastava M (2017) "Analysis of Microstructural Changes in Enhancement of Surface Properties in Sheet Forming of Al alloys via Friction Stir Processing". Materials Today: Proceedings. Vol. 4, pp 452-458.

Abstract
Weight reduction is one of the major objectives in engineering design and manufacturing, especially in automotive and aircraft industries. Aluminium (Al) alloys provide the solution for weight reduction in various structural applications. Forfurther enhancement ofsurface properties of these alloys, their surface composites are fabricated which exhibit high strength - weight ratio, better corrosion resistance, improved mechanical & wear properties as compared to base alloys. In this work, an attempt has been made to enhance the processedlayerhardness of AA 6063 sheets by synthesizing AA 6063/SiC surface composites using friction stir processing (FSP). Single pass FSP was performed on AA 6063 sheets using tool rotational speedat three levels of 900, 1120and 1400 rpm respectively.Traverse speed was maintained at a constant level of 40 millimetres/minute and tool tilt angle was kept at 2Ú. Optical microscopy was employed for observing microstructureof fabricated composites. Uniform distribution of SiC particles in the metal matrix was achieved.The Combination of 1120 rpm, 40 mm/min and 2Ú gave most homogeneous distribution and highest microhardness of 87 Hv. No interfacial reaction was observed between the aluminium matrix and SiC particles.

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Khan J, Haleem A, Husain Z (2017) "Barriers to technology transfer: a total interpretative structural model approach". International Journal of Manufacturing Technology and Management". Vol. 31, pp. 511-536.

Abstract
In the current global competitive environment, the economy and sustainability of a country particularly the developing nations depends to a great extent on the implementation of green and traditional technology transfer (GTTT). Thus there is a need to understand and educate key decision makers to enable them to implement technology transfer arrangements. In the present study, an attempt has been made to identify the barriers to GTTT based on available literature. A total interpretive structural modelling (TISM) approach has been used to develop a model to depict the dependence and driving power of identified barriers. An elaborate discussion on relationship among barriers to GTTT has been presented. The model presented in this study may help understand not only the barriers to technology transfer (TT) but also the relationship among them in terms of driving and dependence powers. Firms involved in TT will find this article useful in making and analysing technology transfer policy decisions.

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Christophides T, Khan S, Ahmad M, Fayed H, Bogle R (2017) "Cardiac Effects of Lightning Strikes". Arrhythm Electrophysiol Review. Vol. 6, pp. 114-117.

Abstract
Lightning strikes are a common and leading cause of morbidity and mortality. Multiple organ systems can be involved, though the effects of the electrical current on the cardiovascular system are one of the main modes leading to cardiorespiratory arrest in these patients. Cardiac effects of lightning strikes can be transient or persistent, and include benign or life-threatening arrhythmias, inappropriate therapies from cardiac implantable electronic devices, cardiac ischaemia, myocardial contusion, pericardial disease, aortic injury, as well as cardiomyopathy with associated

ventricular failure. Prolonged resuscitation can lead to favourable outcomes especially in young and previously healthy victims.

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Khan S, Dar T A, Singh L R (2017) "Clinical Implications of Osmolytes in Various Human Diseases", Cellular Osmolytes. pp. 161-193.

Abstract

Osmolytes are naturally occurring small organic molecules capable of suppressing protein aggregation, reverse misfolding, and stabilizing unstable proteins. They are also known to play crucial roles in various biological processes including prevention of oxidative stress, modulation of immunological processes, host–pathogen interaction, infectivity, cell volume regulation, and cell signaling. Recently, many osmolytes have been discovered to be important metabolites for the cancer cells. In addition to their involvement in various biological processes, they have been also known to have clinical implications for large number of human diseases caused due to protein conformational disorders. They are also known to modulate proteostasis and are associated with the protein quality control system. In this chapter we have systematically reviewed the clinical implications of the osmolytes for human diseases and discussed the advances made on some particular diseases wherein osmolytes' therapeutic role has been extensively investigated. Future clinical perspectives have also been described.

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Nasir Z , Shakir M , Wahab R , Shoeb M , Alam P, Khan R H , Mobin M, Lutfullah. (2017) "Co-precipitation synthesis and characterization of Co doped SnO NPs, HSA interaction via various spectroscopic techniques and their antimicrobial and photocatalytic activities". International Journal of Biological Macromolecules. Vol. 94, pp. 554-565.

Abstract

Sn Co O (x = 0.00, 0.01, 0.03, 0.05) nanoparticles (NPs) of average size <"30–40 nm were synthesized by co-precipitation method. The interaction of Co doped SnO NPs with human serum albumin (HSA) and their photocatalytic and antimicrobial properties were studied. The structural analysis and morphology of Co doped SnO NPs were analysed via X-ray diffraction (XRD), scanning electron microscopy (SEM), energy dispersive X-ray spectroscopy (EDS), high resolution transmission electron microscopy (HRTEM) and Fourier transform infrared spectroscopy (FT-IR). Besides the structural and morphological analysis, the interaction of Co doped SnO NPs with HSA were studied by UV–vis, Circular dichroism (CD) and fluorescence spectroscopy. Fluorescence quenching results suggest that Co doped SnO NPs interact with an HSA molecule through static mechanism. CD indicates that á-helicity of HSA increases due to the interaction of Co doped SnO NPs. The photocatalytic activities of the NPs with increased doping concentration were evaluated through a degradation process in the presence of methylene-blue (MB) dye under UV light irradiation, which exhibited that the surface area of NPs with increased doping concentration plays a major role in improving the photocatalytic activity. The antimicrobial effect of undoped and Co-doped SnO NPs was determined using agar-well diffusion method and analyzed against gram-positive bacteria (Bacillus Cereus MC 2434). In our results, we have found that as the doping concentration increases into NPs, zone of inhibition increases, which could be ascribed to the production of ROS and large surface area of the NPs.

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Berwal A K , Kumar S , Kumari N, Kumar V, Haleem A (2017) "Design and analysis of rooftop grid tied 50 kW capacity Solar Photovoltaic (SPV) power plant". Renewable and Sustainable Energy Reviews. Vol. 77, pp. 1288-1299.

Abstract

Renewable energy is a viable alternative to meet growing energy demand of the country. Realizing this fact, Indian government has recently expressed an intention towards achieving 100 GW of solar capacity by 2022; out of which 40% is being expected through decentralized and roof top scale solar projects. One such Photovoltaic (PV) plant of 50 kW capacity installed at the roof top of Saraswati library building of Deenbandhu Chhotu Ram University of Science & Technology has been analyzed for its technical and financial viability. We have also analyzed the mix of technicalities involved in this PV plant. This PV plant is generating more than 5200 kWh/month of electricity and reducing 4070 kg/month of GHG emissions. Further, this plant is installed with govt. subsidy and found that the subsidy amount makes it lucrative by reducing pay back duration to 5.7 years and increasing the IRR to 16.97%. But even without subsidy, the pay back duration comes out to be 10.3 years and IRR equals to 8.22% to make it financially viable. Thus it is observe that if govt continued to provide subsidy up to 30% to such projects for next 2 to 3 years, then it will help to attract the domestic sector to get install more and more PV plant on their rooftop. Further attempt have been made to present a generic framework for providing SPV power system.

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Ali H (2017) "Distinct mechanisms of kinematic chains of group b". International Journal of Engineering, Science and Mathematics. Vol. 6, pp. 314-319.

Abstract
Author's objective is to prepare a catalogue of fixed link and its corresponding equivalent links in the distinct mechanisms in kin chains of Group B. It will help the new researchers/designers to select the best mechanism kinematic chain and mechanism tothe desired task at the conceptual stage of design.

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Ahmad M, Khan Z U, Khan S (2017) "Do gross domestic product changes have asymmetric effects on India's energy use? New empirical evidence from non-linear autoregressive distributed lag model". Journal of Applied Economics and Business Studies. Vol. 1, pp. 1-8.

Abstract
The existing literature on the linkage between Gross Domestic Product (GDP) and energy use in both industrialized and developing economies usually assumes that the impacts of gross domestic product changes are symmetric. In this study, we utilized nonlinear autoregressive distributed lag (NARDL) model and test whether or not the effect of variations in the gross domestic product on energy use is symmetric or asymmetric from the context of India. Using time series data over 1971-2014, the findings depict that the change in the gross domestic product has a symmetric effect on energy use both in short-run and the long-run. Our conclusions infer that there is no asymmetrical association between GDP and energy use, leading to support the symmetric impact of GDP on energy use.

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Mohsin M , Mohd A , Siddiqui M A , Suhaib M, Arif S (2017) "Effect of Alumina on Green Properties of Al-Fe-Cr Powder Composites". IOP Conference Series: Materials Science and Engineering. https://doi.org/10.1088/1757-899X/225/1/012171.

Abstract
This work illustrates the results of the effect of aluminum oxide (Al2O3) on the green density, hardness and electrical conductivity of Al-Fe-Cr-Al O powder composites at different compaction pressures (470 MPa, 550 MPa and 600 MPa). SEM analysis for different Al O composition was done. The composite consisted of Al-75%, Fe-25%, Cr-5% by weight as matrix material and alumina (Al O) was added in varying percentage by weight (0-30), as reinforcement. Powders of Al, Fe, Cr and Al O having average particle size of 48 ìm, 150 ìm, 100 ìm and 100 ìm respectively with all having purity e" 99% were used. Ethanol (5 wt. %) had been used as a process control agent (PCA). Synthesis of Al- Fe-Cr-Al O composites was carried in shaker mill. The ball to powder ratio was kept 20:1. There was an increase in green density, hardness and electrical conductivity with increase in compaction pressure but no significant effect of adding alumina on these properties was observed.

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Wahid M A, Khan N Z, Sharma N (2017). "Effect of CNC milling machining parameters on depth of pocket". Vol. 9, pp. 1-7.

Abstract
Present work includes understanding the effects of milling parameters such as spindle speed, feed rate and depth of cut on the depth of pocket of finished pockets. The experimental plan was based on Taguchi's technique including L9 orthogonal array with three factors and three levels for each variable and studying the contribution of each factor on depth of pocket. The experiments were conducted on EN 31 steel material on CNC vertical milling machine using carbide tool. The analysis of variance technique is employed to study the significance of each machining parameter on the depth of pocket. The results indicated that spindle speed with the contribution of 41.52% is the most important parameter affecting the depth of pocket. The optimal combination of the parameters for obtaining minimum deviation in depth of pocket is A1B2C3, i.e. at cutting speed (A) of 1000 rpm, feed rate (B) of 1500 mm/min and depth of cut (C) of 0.15 mm.

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Rathee S, Maheshwari S, Siddiquee A N , Srivastava M (2017) "Effect of tool plunge depth on reinforcement particles distribution in surface composite fabrication via friction stir processing". Vol. 13, pp. 86-91.

Abstract
Aluminium matrix surface composites are gaining alluring role especially in aerospace, defence, and marine industries. Friction stir processing (FSP) is a promising novel solid state technique for surface composites fabrication. In this study, AA6061/SiC surface composites were fabricated and the effect of tool plunge depth on pattern of reinforcement particles dispersion in metal matrix was investigated. Six varying tool plunge depths were chosen at constant levels of shoulder diameter and tool tilt angle to observe the exclusive effect of plunge variation. Process parameters chosen for the experimentation are speed of rotation, travel

speed and tool tilt angle which were taken as 1400 rpm, 40 mm/min, and 2.5°respectively. Macro and the microstructural study were performed using stereo zoom and optical microscope respectively. Results reflected that lower plunge depth levels lead to insufficient heat generation and cavity formation towards the stir zone center. On the other hand, higher levels of plunge depth result in ejection of reinforcement particles and even sticking of material to tool shoulder. Thus, an optimal plunge depth is needed in developing defect free surface composites.

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Rathee S , Srivastava M, Maheshwari S , Siddiquee A N (2018) "Effect of varying spatial orientations on build time requirements for FDM process: A case study". Defence Technology.Vol. 13, pp. 92-100.

Abstract

In this research, effect of varying spatial orientations on the build time requirements for fused deposition modelling process is studied. Constructive solid geometry cylindrical primitive is taken as work piece and modeling is accomplished for it. Response surface methodology is used to design the experiments and obtain statistical models for build time requirements corresponding to different orientations of the given primitive in modeller build volume. Contour width, air gap, slice height, raster width, raster angle and angle of orientation are treated as process parameters. Percentage contribution of individual process parameter is found to change for build time corresponding to different spatial orientations. Also, the average of build time requirement changes with spatial orientation. This paper attempts to clearly discuss and describe the observations with an aim to develop a clear understanding of effect of spatial variations on the build time for Fused Deposition Modelling process. This work is an integral part of process layout optimization and these results can effectively aid designers specially while tackling nesting issues.

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Tiwari D , Sherwani A F , Atheaya D , Arora A (2017) "Energy and exergy analysis of solar driven recuperated organic Rankine cycle using glazed reverse absorber conventional compound parabolic concentrator (GRACCPC) system. Vol. 155, pp. 1431-1442.

Abstract

In this research work, the computer code is written in MATLAB 9.0 which is interfaced with Refprop 9.0. in order to develop a thermodynamic model of solar driven organic Rankine cycle. A novel glazed reverse absorber conventional compound parabolic concentrator integrated with recuperated organic Rankine cycle {case (ii)} using low global warming potential and zero ozone depletion potential working fluid cyclohexane/R245fa has been proposed. The coding has been done to evaluate hourly concentrator fluid outlet temperature, heat gain in concentrator, expander output, overall thermal efficiency, overall exergetic efficiency and exergy destruction. The performance of the glazed reversed absorber conventional compound parabolic concentrator integrated with recuperated organic Rankine cycle {case (ii)} has been compared with glazed reversed absorber compound parabolic concentrator with non recuperated organic Rankine cycle {case (i)}. It is observed that overall first law efficiency improves by 40.9% and exergetic efficiency 36.28% using recuperated organic Rankine ORC {case (ii)} in comparison of non-recuperated ORC {case (i)}. The system in case {ii} has been found to be self-sustainable system and gives better result in term of thermal efficiency, environmental, space heating, day lighting and electricity use.

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Paudel A, Ameeduzzafar I, Syed F S, Khan S, Abdul H, Ahmad F J, Ali A (2017) "Formulation and Optimization of Candesartan Cilexetil Nano Lipid Carrier: In Vitro and In Vivo Evaluation". Bentham Science Publishers. Vol. 14, pp. 1005-1015.

Abstract

Purpose: The objective of this study was to formulate and optimize Candesartan Cilexetil (CC) loaded nanostructured lipid carriers (NLCs) for enhanced oral bioavailability.

Method: Glycerol monostearate (GMS), Oleic acid, Tween 80 and Span 40 were selected as a solid lipid, liquid lipid, surfactant and co- surfactant, respectively. The CC-NLCs were prepared by hot emulsion probe sonication technique and optimized using experimental design approach. The formulated CC-NLCs were evaluated for various physicochemical parameters and further optimized formulation (CC-NLC-Opt) was assessed for in vivo pharmacokinetic and pharmacodynamic activity.

Results: The optimized formulation (CC-NLC-Opt) showed particle size (183.5±5.89nm), PDI (0.228±0.13), zeta potential (-28.2±0.99mV), and entrapment efficiency (88.9±3.69%). The comparative in vitro release study revealed that CC-NLC-Opt showed significantly better ($p<0.05$) release and enhanced permeation as compared to CC-suspension. The in vivo pharmacokinetic study gave many folds increase in oral bioavailability than CC suspension, which was further confirmed by antihypertensive activity in a murine model.

Conclusion: Thus, the results of ex vivo permeation, pharmacokinetic study and pharmacodynamics study suggest the potential of CC-NLCs for improved oral delivery.

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Hassan N, Ali M, Haq N U, Azam F, Khan S, Khan Z, Ahmad S (2017) "tiology, clinical presentation and outcome of traumatic brain injury patients presenting to a teaching hospital of khyber pakhtunkhwa". J Postgrad Med Inst. Vol. 31, pp. 365-370.

Abstract

Objectives: To determine the frequency of patients presenting to Department of Neurosurgery, Lady Reading Hospital, Peshawar with traumatic brain injury, and recognize its etiology, clinical and presentation and outcome.

Methodology: This observational study was conducted in the Department of Neurosurgery, Lady Reading Hospital, Peshawar from 1st September 2013 to 31st August 2014. Patients of all ages, both sexes and having brain injury sec-ondary to trauma were included. Patients having other associated injuries along with TBI and minor head injuries treated without admission were excluded from the study. Different variables including age, gender, mechanism & type of injury and surgical outcome of patients were obtained. Data were analyzed by SPSS version 17 and was expressed by charts and tables.

Results: Out of 1338 patients, 827 (65%) were males and 466 (35%) were fe-males. Age ranged from 1-80 years with a mean age of 40 ±9.65 years. Road traffic accidents (RTA) as a cause of injury was present in 45% of cases. Sub-arachnoid hemorrhage was found in 24% cases on the CT Brain. Surgical treat-ment was carried out in 50% of the patients. Mortality was 15%.

Conclusion: Patients withTBI frequently present to LRH. It was most common in young to middle aged people and leading cause was RTA. Sub-arachnoid hemorrhage was the commonest CT scan finding followed by depressed skull fracture. Most of these patients have mild type of head injury and are managed conservatively with good Glasgow coma scale on discharge.

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Sharma N, Siddiquee A N, Khan Z A (2017) "Friction stir welding defects in aluminum to copper joining: an overview". Journal of Manufacturing Technology Research. Vol. 9, pp. 69-79.

Abstract

In recent years researchers have shown great interest in joining dissimilar materials such as aluminum and copper because components made by joining them are used in power plants, heat exchanger, radiators and electrical power transmission. However, joining of dissimilar materials is a challenging task because of vast difference in their mechanical, thermal and electrical properties. A recently developed solid state welding process i.e., friction stir welding (FSW) has been employed by researchers to successfully join Al-Cu. Literature reveals that large number of research articles pertaining to dissimilar FSW of Al-Cu are available in different sources and need to be compiled in one article. The objective of the present article is to compile several such articles and to present information regarding the causes and remedies of welding defects found during dissimilar FSW of Al-Cu. The present article comprehensively covers and summarizes the various welding defects occurring during dissimilar FSW of Al-Cu and provides a deep understanding of FSW process parameters and their combination on the welding defects. Present article not only suggests the critical factors for eliminating welding defects and concludes the findings of the previous researchers but also provide future recommendations to explore various aspects for controlling the defects in dissimilar FSW of Al-Cu.

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Sharma N , Khan Z A, Siddiquee A N (2017) "Friction stir welding of aluminum to copper—An overview". Vol. 27, pp. 2113-2136.

Abstract

Components made by joining different materials are required in various engineering applications. Fabrication of such components is a challenging task due to the vast difference in mechanical, thermal and electrical properties of the materials being used. Friction stir welding (FSW) is capable of joining dissimilar materials such as aluminum (Al) and copper (Cu) and therefore researchers have used this novel process for dissimilar joining. Consequently, several works pertaining to dissimilar joining, specifically Al-Cu, are available in the literature but they are scattered in different sources, which makes the task of gathering information about dissimilar FSW of Al-Cu cumbersome. This work has been written with an aim to provide all pertinent information related to dissimilar FSW of Al-Cu at one place to ease the problems of researchers. It comprehensively covers and summarizes the topics such as the effect of tool design and geometry, FSW process parameters, FSW strategies on mechanical properties, microstructure and formation of defects during dissimilar FSW of Al-Cu. In addition, it also presents and discusses several variants of dissimilar FSW of Al-Cu. Finally, this work not only puts forth major findings of the previous researchers but also suggests future recommendations for dissimilar FSW of Al-Cu.

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Hasan A (2017) "Generation of Planar Kinematic Chains". An International Journal of Engineering Sciences. pp. 271-278.

Abstract

Kinematic chains constitute the basis for developing all kinds of mechanisms. M. Gruebler in his classical work Getriebelehre (kinematics) found a relationship between the number of links (n),the number of joints (j) and the degree of freedom (f) of a kinematic chain. In this paper, a simple, efficient and reliable computational method to develop all possible distinct planer, pin-jointed, 1-dof, KC up to 10-link kinematic chains from a given assortment of links for single degree of freedom has been proposed. The entire skeleton and KC are distinct as the permutation process of E-; Z- and D-Chains is rigorous. The method is based on theoretic approach. All the possible skeletons of kinematic chains (KC) having 6-links and 8- links 1-dof have been developed. This work will be extremely useful and give the freedom for new researchers / designers to select the best mechanism kinematic chain and the mechanism to be used to perform the end task according to needs at the conceptual stage of design.

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Mufazzal S, Muzakkir S M (2017) "Identification of Optimal Alternative as a Prospective Candidate for Further Design Improvements using Preference Selection Index Method". International Conference on Innovations in Control, Communication and Information Systems. DOI: 10.1109/ICICCIS.2017.8660762.

Abstract

In the modern era of advancements, the market is flooded with countless alternatives in order to offer a large number of options to their customers. This has led to an increase in the competition between major players in the market. To help stand stiffly in this ever increasing competition, the manufacturers are required to select the model that best suits the customer requirement, and further add value to them. In this context, Multicriteria Decision making is a critical phase before any design and development stage. Different Multi Criteria Decision Making techniques are available to help decision makers in making a rational decision. The present paper seeks to select out the best model among eight randomly chosen Top Load Semi-Automatic Washing Machines with nearly same range of performance, using Preference Selection Index method. The method has been used because of its simplicity and an added advantage of non requirement of relative importance between the decision attributes.

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Luthra S, Mangla S K, Kumar S, Garg D, Haleem A (2017) "Identify and prioritise the critical factors in implementing the reverse logistics practices: a case of Indian auto component manufacturer". Int. J. Business and Systems Research. Vol. 11, pp. 42-61

Abstract

In recent years, reverse logistics (RL) practices have been perceived a great recognition among researchers/ practitioners. In this paper, we intend to identify and prioritise the critical factors (CFs) in implementing the RL practices, from the industrial viewpoint. There are 13 CFs crucial in accomplishing the RL practices were recognised on the basis of critical review of literature and experts opinion. These finalised 13 CFs were then analysed to determine their priority by means of analytical hierarchy process (AHP) technique. The AHP technique assists in determining the relative importance of the identified RL implementation critical factors. The findings of the work may help managers to address the related issues in RL implementation. Inputs needed to carry out this research work are taken from an Indian automotive components manufacturing company. The results of the study may help researchers/practitioners to prioritise their efforts to implement RL practices in effective manner. In the end, sensitivity analysis is carried out to examine the proposed RL implementation CFs stability.

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Hasan M, Mashkour A, Mohammed A (2017) "Impact of mixing speed & reaction time on the biodiesel production from sunflower oil". Association of Arab Universities Journal of Engineering Sciences, vol. 24,

Abstract

In this work the effect of stirring speed & reaction time on biodiesel production are studied experimentally by using transesterification reaction process with 1:7 oil (cooking oil) to methanol ratio, NaOH catalyst of 1wt% of oil weight and reaction temperature of 55 C. The experiments conducted with stirring speeds of (200, 400, 600, 800) rpm and shaking times (1, 2 and 4) hours. The results showed that, the highest production of biodiesel (96%) using 600 rpm and shaking time 2hr. and the biodiesel can be used as fuel in engines and burners.

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Rathee S, Maheshwari S, Siddiquee A N, Srivastava S (2017) "Investigating Effects of Groove Dimensions on Microstructure and Mechanical Properties of AA6063/SiC Surface Composites Produced by Friction Stir Processing". Transactions of the Indian Institute of Metals. Vol. 70, pp. 809-816.

Abstract
Friction stir processing forms an innovative and promising technology for surface composite fabrication where their fabrication is accomplished in solid state. In the current research, AA6063/SiC surface composites were fabricated and effect of ratio of groove width (w) to tool pin diameter (d) on dispersion of reinforcement particles and mechanical properties were investigated. Five varying groove widths were chosen at constant levels of tool dimensions and process parameters

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Mufazzal S, Muzakkir S M, Jafri H Z (2017) "Investigation of the Effect of Material on Undamped Free Vibration of Cantilever Beams with Uniform Single Surface Crack". IOP Conference Series: Materials Science and Engineering. https://doi.org/10.1088/1757-899X/225/1/012020

Abstract
Crack detection in structures is a critical area of research where the developments have been made out since decades. Various techniques are available for early identification and quantification of cracks to predict and prevent the unexpected sudden failure of structure and ensure uninterrupted service. Use of vibration analysis for detecting crack is one of the widely used techniques which offer lots of advantages over other like it is easier and less costly method and can be used for inaccessible components. The present work attempts to use modal analysis through FEA to investigate the effect of crack on natural frequency of vibration in beams of different materials, for three different crack location. From the result, it has been inferred that among Structural Steel (SS), Aluminium alloy (Al) and Gray Cast Iron (CI), the natural frequency is highest for Al beam and lowest for CI beam. Introduction of crack reduces the natural frequency of vibration, however, the effect of crack location on frequency is not uniform for different modes. Also, the trend is similar in beams of all the materials.

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Mufazzal S, Muzakkir S M (2017) "Investigation of the effect of transverse crack on the modal properties of cantilever beams with different geometries using finite element analysis" Recent Developments in Control, Automation & Power Engineering.

Abstract
Vibration analysis of structure for early detection of crack and its subsequent quantification for preventing sudden and unpredicted failure of the system and ensuring uninterrupted functionality, is one of the extensively used techniques that offer several advantages over others. The geometry of the structure plays an important role in governing its vibrational behavior in the presence of crack. The present work uses FEA to investigate the effect of single transverse crack on natural frequencies of vibration in cantilever beams of three different cross-sectional areas through Modal Analysis. The analysis has been carried out for two different crack depths with three different crack locations. The results reveal that the onset of crack reduces the natural frequency of vibration, although, the quite low sensitivity of frequency shift to damage, demands either a highly precise measurement or a considerably large damage to be confidently detected. Moreover, the effect of crack location on modal frequencies is not uniform for the beams, with varying cross-sections, however, for a particular mode, the shifts in frequency have a similar trend in all the beams.

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Mohammed M T , Khan Z A (2017) "Investigations on the Biomechanical Compatibility of a Novel Titanium Alloy". Vol. 4, pp. 10432-10436.

Abstract
In this paper, the biomechanical compatibility of a novel metastable â-titanium (Ti) alloy has been investigated after subjecting it to different thermo-mechanical processing (TMP) conditions. The TMP scheme comprises of hot plastic deformation coupled with solution treatments in various conditions. Factorial design of experiment is applied to systematically collect data for mechanical strength of the alloy. Several diagnostic tests are performed to verify the validity of hypotheses correlated with the collected data. The statistical technique (analysis of variance ANOVA) is employed to determine which TMP parameters and interaction between parameters significantly affect the response variable. In addition, optimization is carried out to establish the TMP parameters that result in optimum value of the response variable.

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Khan N Z , Siddiquee A N, Khan Z A, Mukhopadhyay A K (2017) "Mechanical and microstructural behavior of friction stir welded similar and dissimilar sheets of AA2219 and AA7475 aluminium alloys". Journal of Alloys and Compounds. Vol. 695, pp. 2902-2908.

Abstract
Friction stir welding process has been employed to join similar and dissimilar 2.5 mm thick sheets of AA2219-O and AA 7475-T761 aluminium alloys. AA2219 and AA7475 Al alloys are utilized in the components of space shuttles and aircraft, respectively that require efficient fabrication process. Friction stir welding is a clean welding process capable of joining difficult to weld aerospace aluminium alloys. Tensile properties, microstructure, micro-hardness, and fracture surfaces of the friction stir welded joints were

analyzed. Grain refinement is observed at the stir zone due to dynamic recrystallization caused by severe plastic deformation. Lowest strength for dissimilar joint is observed primarily due to non homogeneous movement of base materials consequent to differences in mechanical and physical properties. Minimum hardness was found at TMAZ retreating side for all joints due to the thermal softening. Fractured surfaces of the similar joints showed more ductile fracture compared to dissimilar joint which resulted in lower elongation of the dissimilar joints.

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Afridi Z, Khan A R, Haleem A, Kamran K, Ahmed I, Tanoli R (2017) "Medical expulsive therapy for ureteral stones; beyond alpha blockers & steroids. J Med Sci. vol. 25, pp. 446-451.

Abstract

Objectives: To Know the Medical Expulsive Therapy for Ureteral Stones; Beyond Alpha Blockers & Steroids.

Material and Methods: This prospective cohort study was carried out to see the effects of adding Serratiopeptidase to the already established drug therapy, 'alpha blockers' in patients with the ureteral stones size from 05mm up to 10mm, for the medical expulsion therapy. It consisted of a total of 80 patients. There were 63 male patients (78.80%) as com-pared to 17 female patients (21.30%). The mean age of the patients was 25.80 ± 06.43 years (Range = 15 to 41 years).

Results: In our study the stones were cleared in a total of 68 patients (Total stone clearance = 85.00%). IVU was carried out in 12 patients (15%). The stones clearance was achieved in 08 patients (10%) by Extra Corporeal Shock Wave Litho-tripsy (ESWL) and four patient needed surgical intervention (5%). A total of 12 (15%) patients had failed attempt at MET.

Conclusion: Majority of the clinicians accept the effectiveness of the anti inflammatory and analgesic properties of ser-ratio-peptidase & this role can be exploited in the medical expulsion therapy of the ureteral stones substituting steroids.

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Siddiqui F, Haleem A, Sharma D, Raut P (2017) " Micro Variables Identification for SUPPLY Chain Management Practices in Context of Flexible System in Indian Gas Industry" Global Journal of Enterprise Information System. Vol. 9, pp.41-46.

Abstract

Present paper recognizes a set of micro variables for the Supply Chain Management (SCM) practices in context of flexible system (FS) practices and groups them into different categories for gas industry in India. Grounded on a detailed literature analysis, twenty-four micro variables were recognized and a structured questionnaire was created and distributed to middle level managers to senior level managers from various sectors of Indian gas industry. In total 309 valid replies were obtained on a five point Likert scale ranging from unimportant to most vital. Statistical analysis was used to create the reliability and validity of the questionnaire. Factor analysis identified five factors of SCM practices in context of FS Practices. Further, descriptive statistics was used to find their importance in Indian gas context. Present work would help practitioners and Indian gas managers for understanding the importance of these variables and their role in SCM practices in relations of FS practices.

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Ehtesham N, Suhaib M, Khan M M (2017) "Mobility and connectivity analysis of a multi finger tendon driven robotic gripper, International Conference on Intelligent Robots and Systems". 10.1109/ICIMIA.2017.7975608.

Abstract

Mobility is a fundamental parameter of mechanisms expressing their kinematic and dynamic properties in a qualitative manner. For a mechanical hand-object system the mobility number serves as a criterion for dexterous manipulation. Connectivity of a link in a mechanism determines its ability to perform task relative to frame. In present work a newly developed multi finger gripper is analyzed in terms of its mobility and connectivity by considering various shape objects for grasping and manipulation. Modified version of Grubler's formula is used for the purpose. The objects taken under consideration are a circular disc, a triangular polygon and a quadrilateral polygon. The contact point between gripper and object is assumed to be a point contact with or without friction. The gripper-object configuration is characterized and manipulation capability of the gripper is examined as redundant or defective.

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Kumar P, Haleem A, Qamar F, Khan U (2017) "Modelling Inland Waterborne Transport for Supply Chain Policy Planning: An Indian Perspective". Global Journal of Flexible Systems Management. Vol. 18, pp. 353-366.

Abstract

This paper identifies and models enablers of inland water transport mode in India. A well-known technique of Total Interpretive Structural Modelling (TISM) has been used to develop the hierarchal structural model. The input to this model has come from an extensive literature review, Pentagon model based stakeholder analysis, after which

several idea engineering workshops were conducted involving stakeholders. The structural model so developed is based upon ten enablers. However, this model was further analysed using Fuzzy-MICMAC and TISM approach. The extensive analysis in integrated model pointed towards the major driving power with the enablers Cargo assurance Fuzzy MICMAC Inland waterborne transport (IWT) Policy planning Project management Public funding Supply chain Total interpretive structural modelling (TISM).

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Kumar H, Moona G, Arora P K, Haleem A, Singh J, Kumar R, Kumar A (2017) "Monte carlo method for evaluation of uncertainty of measurement in brinell hardness scale". Indian Journal of Pure & Applied Physics. Vol. 55.

Abstract

Though method based on law of propagation of uncertainty (LPU), described in GUM, is widely used as an international method for estimation of the uncertainty associated with measurements, JCGM through supplement JCGM 101:2008, which deals with the propagation of distributions, recommends the application of Monte Carlo method (MCM) to evaluate the uncertainty of measurement as an alternative method to LPU. In MCM approach, probability distribution function of measurand has been determined by assigning appropriate probability distribution of the input quantities. In the present paper, effort has been made to discuss the procedure for the application of MCM for computing the uncertainty of measurement of hardness blocks, which have been calibrated by Brinell hardness machine and observations have been recorded. A comparison of the findings of the LPU and MCM has been made, which shows good agreement between the two methodologies adopted. The paper attempts to highlights the MCM for uncertainty of measurement evalution and its implications in this regard. The paper thrusts upon the practical viability of MCM in similar applications and reliability of method have been discussed and presented.

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Neha E , Suhaib M , Mukherjee S (2017) "Motion Planning For A Four-Fingered Robotic Hand". The Association for Computing Machinery. Vol. 9.

Abstract

In this paper, the concept of trajectory planning is discussed for a four-fingered tendon actuated robotic hand. The finger of the robotic hand is desired to follow a given trajectory using the best solutions out of the number of inverse kinematics solutions. The priority of the finger is to track the given trajectory. The pseudo-inverse of the jacobian matrix is utilized for the accomplishment of this task where the general solution of joint velocity was interpreted by means of the generalized inverse of the jacobian matrix. Numerical simulation is performed for straight line, circular and elliptical trajectory to show the efficacy of the control scheme.

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Hussain Z, Khan S, Gaur A, Shuaib M (2019) "Optimum yield parameters of MWCNT/MnO2 nanocomposite". International Journal of Advance Research and Innovation. Vol. 5, pp. 279-282.

Abstract

The objective of this study is to illustrate the optimum parameters adopted to evaluate maximum yield of MWCNT/MnO2 nanocomposite. In this paper, the effect of stirring time, Concentration of H2SO4 (aq) solution, solution temperature and drying time on yield of MWCNT/MnO2 nanocomposite was investigated. The orthogonal array, signal-to-noise ratio, and percentage contribution of all parameters are employed to study the yield of MWCNT/MnO2 nanocomposite. After conducting the experiments the yield was measured and Signal to noise ratio was calculated. With the help of graphs, optimum parameter values were obtained at parameter level A2B2C2D1. The percentage contributions of parameters and regression analysis confirmed the concentration of H2SO4 has significant effect on yield of MWCNT/MnO2 powder.

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Al-Sweih N, Ahmad S, Khan S, Khan Z, Joseph L , Vayalil S, Chandy R (2017) "Persistent Candida conglobata bloodstream infection in a preterm neonate successfully treated by combination therapy with amphotericin B and caspofungin". Journal de Mycologie Médicale. Vol. 27, pp. 271-276.

Abstract

Fungemia due to uncommon/rare Candida species is an emerging problem of global clinical significance. Here, we describe a case of Candida conglobata bloodstream infection in a preterm neonate. The diagnosis was established by repeated isolation of C. conglobata in blood cultures and by detection of rDNA of the fungus in serum samples. The identity of the isolate as C. conglobata was confirmed by sequencing of ITS region and D1/D2 domains of rDNA. Despite initial treatment with a liposomal amphotericin B (AmBisome) for 7 days, the blood culture remained positive. The neonate was successfully treated by combination therapy with caspofungin for 25 days. To the best of our knowledge, this is the first proven report unequivocally proving the etiologic role of C. conglobata in bloodstream infection.

Khan S, Prabhushankar R, Leary E, Khan U Z (2017) "Persistent Elevation of Thyroglobulin in Patient Treated for Differentiated Thyroid Cancer: A Ten-Year Review". The journal of Missouri state medical Association. Vol. 11, pp. 387-393.

Abstract

Differentiated Thyroid Cancer (DTC) is increasing in prevalence due to better diagnostic tools and excellent long-term survival. This study is to understand the outcome of twenty-six patients with DTC over a period of 10 years after the initial treatment with surgery and radioiodine therapy. Our study analysis showed no deaths, and indicated that older men were more likely to have persistent disease. Further studies are needed to focus on cost effective long-term management of DTC.

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Khan S, Ali W, Javid M, Ullah I, Hussain G, Shahnaz Z, Ullah I, Ullah I (2017) "Prevalence of Argulus in Common Carp (Cyprinus Carpio)". Journal of Entomology and Zoology Studies. Vol. 5, pp. 203-205.

Abstract

One hundred and fifty common carp (Cyprinus carpio) from district D.I. Khan Khyber Pakhtunkhwa were examined for ectoparasites. The Argulus ectoparasites found were A. foliaceus, A. japonicus, and A. coregoni. Out of 150 fish 17 (11.33%) were infested with ecto parasites. The predominant parasite was A. foliaceus (10%) followed by A. japonicus (8.66%). A. coregoni (6.66%) A. foliaceus is the most abundant ectoparasite in overall study.

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Ayub R, Khan H M, Rehman Z, Ahsan J, Gul R, Khan U, Khan S (2017) "prevention of thalassemia; role of chorionic villous sampling technique major in families with thalassemia positive history". The journal of the Missouri State Medical Association. 10.17957/TPMJ/17.3658.

Abstract

Objectives: The study was conducted to determine role of CVS in prevention of thalassemia and its sensitivity and specificity in those families with thalassemia positive history. Period: Three months. Study Design: Cross sectional study. Material and Methods: 130 women who had thalassemic children and had come to transfusion centers for blood transfusion. Questionnaire was used for interview. Results: out of the total 130 women, 101 were aware of CVS technique in which 50 had CVS. In 50 CVS, 15 had positive result while 35 had negative result. In 15 positive cases 11 had abortion while four positive women refused to abort. Out of the four women who completed their term, three were true positive while one case was false positive. In 35 negative case results, 32 were true negative and three were false negative. Conclusion: Thalassemia is the commonest genetic disorder worldwide. It is transmitted from those parents who are carrier of thalassemia. Chorionic villous sampling plays important role in prevention of thalassemia during 1st trimester of pregnancy.

Siddiquie R Y, Khan Z A, Siddiquee A N (2017) "Prioritizing decision criteria of flexible manufacturing systems using fuzzy TOPSIS". Journal of Manufacturing Technology Management.

Abstract

The purpose of this paper is to systematically demonstrate the use of an effective multiple criteria decision-making technique, i.e. fuzzy technique for order of preference by similarity to ideal solution (TOPSIS) in ranking the decision criteria of flexible manufacturing systems (FMS). A questionnaire is specially designed and served to the industry experts to collect their opinion on several FMS decision criteria. Subsequently, fuzzy TOPSIS is used to prioritize the decision criteria. Fuzzy TOPSIS multiple criteria decision-making technique is explained and applied to determine relative importance of the several decision criteria of FMS. This will help management of organizations in taking decision for implementing FMS in their organizations. From this study, it is found that customer satisfaction is the top most criterion among several other criteria for the successful implementation of FMS.

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Kumar L, Haleem A, Tanveer Q, Javaid M, Shuaib M, Kumar V (2017) "Rapid Manufacturing: Classification and Recent Development". International Journal of Advanced Engineering Research and Science. Vol. 4, pp. 29-40.

Abstract

Rapid Prototyping is an emerging technology in the field of advance manufacturing process/technique in which components/parts/models are rapidly created from the visual world (CAD model) to real world with minimum human interaction. Since the manufacturing starts with the creation of geometric data, either as a 3D solid using a CAD model, or 2D layers using a 3D scanning device therefore it is also referred as Layer Manufacturing, Material Deposition Manufacturing, Additive Manufacturing, Solid Freeform Manufacturing and Three- Dimensional Printing. This is one of the best techniques to manufacture prototypes which may be used for physical visualization, making some typical and intrinsic geometry. For the same requirement, in most of the cases it is very cost effective, flexible and time saving than

any other available manufacturing technique. Therefore it is the most appropriate technique to manufacture or to recreate components/parts/model in different engineering viz. aerospace, product and tool development. A lot of new developments are occurring in the field of Rapid Prototyping Techniques in recent years. This paper also provides the development, trendsand applications of the Rapid Prototyping Techniques. The authors cover various available literatures to prepare concise and progressive review. There are various components which are associated with RP technique and some of them are listed in this paper.

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Manzoor H M, Ahmad M, Saddique F A, Aslam S, Khan S G, Saddiqa A (2017) "Recent developments of quinoline based antimalarial agents", Afinidad. Vol. 74.

Abstract
Malaria is a well known death causing disease worldwide. A number of quinoline based antimalarial compounds have been synthesized up till now afterthe discovery of antimalarial character of quinine. This review covered a diversified quinoline derivatives presented during the last five years, thus highlightingtheir importance as antimalarial agents.

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Singh A, Gupta S, Asjad M, Gupta P (2017) "Reconfigurable manufacturing systems: journey and the road ahead". International Journal of System Assurance Engineering and Management. Vol. 8, pp. 1849-4857.

Abstract
Reconfigurable manufacturing system (RMS) has emerged as a cost effective mechanism that helps the manufacturing organizations to stay competitive in a global scenario where economic pressures and varying product and production demands are perpetually changing in a fiercely dynamic environment. In this context, RMS is seen as one of the current manufacturing structures, which rapidly adjusts to nuances of production capacity and functionality and is capable of producing variety of products, as and when needed, by incorporating principles: some, which are developed and the others that are in an evolutionary stage.

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Hussain Z, Khan S, Haque S, Pathak B (2017) "Review of synthesis, Characterization, Mechanical and Electrical properties, of CNTs/PANI nanocomposite". International Journal of Advance Research and Innovation. Vol. 5, pp. 440-443.

Abstract
In recent years, attention has been made by researchers to fabricate carbon nano tubes/Polyaniline (CNTs/PANI) nanocomposites due to its simple method of preparation, low cost, environmental friendly, excellent capacitive performance. The discovery of carbon nanotubes with unique electrical, thermal and mechanical properties has attracted researchers used as a filler material for applications in engineering discipline. This review gives a broad study on ongoing research effort on synthesis, characterization, mechanical and electrical properties of CNTs/PANI nanocomposites.

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Prateeksha , Singh B R, Shoeb M, Sharma S, Naqvi A H, Gupta V K, Singh B N (2017) "Scaffold of Selenium Nanovectors and Honey Phytochemicals for Inhibition of Pseudomonas aeruginosa Quorum Sensing and Biofilm Formation". Frontiers.

Abstract
Honey is an excellent source of polyphenolic compounds that are effective in attenuating quorum sensing (QS), a chemical process of cell-to-cell communication system used by the opportunistic pathogen Pseudomonas aeruginosa to regulate virulence and biofilm formation. However, lower water solubility and inadequate bioavailability remains major concerns of these therapeutic polyphenols. Its therapeutic index can be improved by using nano-carrier systems to target QS signaling potently. In the present study, we fabricated a unique drug delivery system comprising selenium nanoparticles (SeNPs; non-viral vectors) and polyphenols of honey (HP) for enhancement of anti-QS activity of HP against P. aeruginosa PAO1. The developed selenium nano-scaffold showed superior anti-QS activity, anti-biofilm efficacy, and anti-virulence potential in both in-vitro and in-vivo over its individual components, SeNPs and HP. LasR is inhibited by selenium nano-scaffold in-vitro. Using computational molecular docking studies, we have also demonstrated that the anti-virulence activity of selenium nano-scaffold is reliant on molecular binding that occurs between HP and the QS receptor LasR through hydrogen bonding and hydrophobic interactions. Our preliminary investigations with selenium-based nano-carriers hold significant promise to improve anti-virulence effectiveness of phytochemicals by enhancing effective intracellular delivery.

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Asjad M, Mallick Z (2017) "Some investigations on the relationship between ergonomic and TQM". International Journal of Industrial and Systems Engineering. Vol. 27. https://doi.org/10.1504/IJISE.2017.086272

Abstract
The aim of this paper is to evaluate and investigate the hidden relation between total quality management (TQM) and ergonomics; with their effect on the organisational performance. TQM is a process of embedding quality awareness at every step of production and/or service while targeting their customer, and is based on seven cardinal principles; i.e. customer focus, management leadership, human resource, quality data and reporting, suppliers' management, design management and process management. A framework is developed to examine the direct effect of seven TQM principles with the help of Statistical Package for the Social Sciences (SPSS) Version 19.0 and SPSS Analysis of Moment Structures (AMOS) software. The findings revealed that the organisation is fully focussing on implementation of TQM but still the targets are not achieved on a satisfactory level. There may be some hidden causes which are still to be detected. This cause is the negligence of ergonomics aspect for productivity enhancement. The study concluded that considering the ergonomics in TQM may effect in improving the workplaces design that may results in increase productivity with safety. Thus, ergonomics can be considered as an integral part of TQM activities.

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Furqan M , Suhaib M , Ahmad N (2017) "Studies on Stewart platform manipulator: A review". Journal of Mechanical Science and Technology. Vol. 31, pp. 4459-4470.

Abstract
This paper presents a compilation of previous studies on the Stewart platform, which is a class of six degree of freedom parallel manipulators. The abstraction of a parallel manipulator is appropriated for the entire class of it. The paper focuses on the studies in the different fields which are closely checked to determine the direction of research and identify the solved problem areas. A significant investigation has been presented to discuss the existing methods for the analysis of the Stewart platform manipulator due to their unique applications. Studies on analysis and design of the Stewart platform manipulator using flexible joints are included. Modeling and analysis of parallel manipulators by Matlab SimMechanics environment are also highlighted.

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Iqbal S, Iqbal R, Iqbal F (2017) "Surgical Implications of Portal Vein Variations and Liver Segmentations: A Recent Update". Journal of Clinical and Diagnostic Research. Vol. 11. doi: 10.7860/JCDR/2017/25028.9453

Abstract
The Couinaud's liver segmentation is based on the identification of portal vein bifurcation and origin of hepatic veins. It is widely used clinically, because it is better suited for surgery and is more accurate in localizing and monitoring various intra parenchymal lesions. According to standard anatomy, the portal vein bifurcates into right and left branches; the left vein drains segment II, III and IV and the right vein divides into two secondary branches - the anterior portal vein drains segments V and VIII, and the posterior drains segments VI and VII. The portal vein variants such as portal trifurcation, with division of the main portal vein into the left, right anterior, and posterior branches, and the early origin of the right posterior branch directly from the main portal vein were found to be more frequent and was seen in about 20 - 35% of the population. Accurate knowledge of the portal variants and consequent variations in vascular segments are essential for intervention radiologists and transplant surgeons in the proper diagnosis during radiological investigations and in therapeutic applications such as preparation for biopsy, Portal Vein Embolization (PVE), Transjugular Intrahepatic Porto-Systemic Shunt (TIPS), tumour resection and partial hepatectomy for split or living donor transplantations. The advances in the knowledge will reduce intra and postoperative complications and avoid major catastrophic events. The purpose of the present review is to update the normal and variant portal venous anatomy and their implications in the liver segmentations, complex liver surgeries and various radiological intervention procedures.

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Muqeem M, Sherwani A F, Ahmad M, Khan Z A (2017) "Taguchi-based combined grey relational and principal component analyses for multiresponse optimization of diesel engines", Grey Systems: Theory and Application. Vol. 7, pp. 408-425.

Abstract
Diesel engine can produce power more efficiently with lower exhaust emissions when operated at optimum input parameter settings. To achieve this goal, the purpose of this paper is to optimize the input parameters of diesel engine which will lead to optimum performance and exhaust emissions. To achieve the goal of improving diesel engine performance and exhaust emissions, four input parameters were considered in the study. Five different levels of each input parameter were taken. Four response variables under no load, half load and full load conditions were recorded. Experiments were performed in random manner according to selected Taguchi L25 orthogonal array. The data were analyzed using grey relational analysis coupled with principal component analysis. Analysis of S/N ratio was performed to obtain the optimum combination of input

parameters. The grey relational grade at optimum setting of the input parameters was obtained by regression analysis.

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Khan S, Aslam S, Iqbal Y, Ghouri A (2016) "The Affiliation Between Athlete's Physiological And Anthropometrical Parameters And Its Role In PerformanceOf Male Badminton Competitors". The Shield - Research Journal of Physical Education & Sports Science. Vol. 11.

Abstract

The crucial apprehension of high level of performance in sports is the final performance whether it is during training or sports competition. The ultimate result relies on intricacy of factors. Level of performance can be improved if the physical educationist and coaches more inclusively understand the anatomy and working of skeletal muscles. It can be examined by reviewing the size; shape and form of athlete s body and for this rationale, a series of preferred anthropometric dimensions and physiological parameters of athletes are measured. The affiliation among any two parameters can play a helpful role in performance. Several aspects are responsible for the performance of badminton players. Basic skills of badminton such as various types of serves, loops and lobs, smashing and blocking, involves a particular type of physique having specific proportions with specified provisional capabilities, observed in physiological variables for instance vital capacities, heart rate, blood pressure and breathing frequency at rest. The aim of this study is to evaluate the measurements and proportions of the human body (anthropometry) and physiological diversities in various degrees performance among male badminton players belonging to District Hyderabad Sindh. Every now and then Physical Educators and trainers are involved with team assortment plus the coaching and scientific training of athletes for competitions. Their job requires a relevant understanding of the sport concerned and in addition to the techniques and strategy concerning that game and an insight of the anthropometrical and physiological differences which materialize the basis of good techniques and tactics. The study will be of significance in tendering awareness in the domain of Badminton. For present study National an d all Pakistan Intervarsity level players were considered as High level competitors while District, Region and Collegiate level Players were considered as Low level competitors A total of 20 subjects (10 from each category that is high & low level Badminton competitors) were selected randomly. Anthropometrical measures, body Ind ices and physiological considera-tions such as blood pressure, vital capacity, heart rate and resting Present research observed that top level badminton competitors were greater than bottom level badminton competitors in mass, forearm, leg and foot length, biceps and calf muscle girth, vital capacity and mesomorphy whereas bottom level badminton competitors were bigger in lengthwise measurement of hand, shoulder girth, hip girth, biceps skin fold, heart rate, diastolic and systolic blood pressure, breathing frequency at rest, sitting height - height index, thigh, lower and upper leg length indices, upper and lower arm length indices, hip width - stature, shoulder width - statue and hand length-wrist width indices, whereas in rest of the variables, the differences were insignificant.

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Tiwari D , Sherwani A F, Arora A, Haleem A (2017) "Thermo-economic and multiobjective optimization of saturated and superheated organic Rankine cycle using a low-grade solar heat source". Journal of Renewable and Sustainable Energy.

Abstract

This paper presents detailed energy and exergy analysis and comparison of low-grade solar heat source powered superheated and saturated organic Rankine cycle (ORC) using zeotropic mixture butane/R1234ze. The required expression to evaluate the power output, first law efficiencyexergetic efficiency, exergy destruction, and required heat exchangers area are coded in Matlab 2015a interfaced with REFPROP 9.0. Moreover, saturated and superheated ORCs are further optimized by geneticalgorithm by selecting exergetic efficiency and product of overall heat transfer coefficient and heat exchanger area. It is observed that superheated ORC exhibits better net power output, first law, and exergetic efficiency, lower exergy destruction, and poorer economy than saturated ORC. Further, the performance of saturated ORC is increased by 34.02% and that of superheated ORC by 17.06% by the multiobjective genetic algorithm.

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Haleem A, Khan I (2017) "Towards successful adoption of Halal logistics and its implications for the stakeholders", British Food Journal. Vol. 7, pp. 1592-1605.

Abstract

The purpose of this paper is to understand the major critical success factors (CSFs), which are instrumental for effective adoption and implementation of Halal logistics (HL) in Halal supply chain (HSC) environment.In total, 15 CSFs/CSF clusters were identified and used to develop an interpretive structural modelling-based hierarchal and structural model. Further, analysis categorises driving and dependence power of factors. MICMAC has been undertaken to analyse how these CSFs and their hierarchies relate, with paths and levels. It was found that there is a need to develop proper guidelines, standards and codes, to

train the Halal logisticians. Robust ICT and its appropriate implementation seems as the backbone of the HSC. HL emerges as a key component for the Halal industry to succeed, and the same is required to extend the integrity of the Halal products from the farm to the fork. That's to develop Halal as an intrinsic characteristic. Thus, organisations should have support from specific CSFs. The paper provides managerial implications, recommendations for effective implementation of HL and further in identifying the pull effect of HL. Model so developed is contextual and based on the perception of qualified experts, and they can have biasness of Halal meat supply chain.

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Mannan B, Haleem A (2019) "Understanding major dimensions and determinants that help in diffusion & adoption of product innovation: using AHP approach". Journal of Global Entrepreneurship Research. https://doi.org/10.1186/s40497-017-0072-4

Abstract

In this global world, diffusion & adoption of new product innovation have become intricate and involves multifaceted process, as consumers demand a broad range of choices. So, this has generated enthusiasm among researchers and business practitioners while studying and implementing diffusion & adoption of product innovation. Even though diffusion & adoption is known as one of the most important processes of an innovation management, but the literature available in this area is highly fragmented. Therefore, in this paper, we attempt to develop a framework for diffusion & adoption, which helps in learning and understanding its dimensions and determinants from different perspectives. In this study, AHP has been used to analyse the relative importance and provide a ranking to the dimensions and determinants of product innovation. The findings of this study can help the management, product developers and market professionals in strategic planning and in setting their priorities when there is resource constraint. This study also helps in deciding and prioritising the dimensions and determinants that should be fuse during product development phase.

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