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शासकीय एवं गैर शासकीय विद्यालयों में शिक्षकों की कार्य संतुष्टि

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वर्तमान समय में शिक्षक एवं शिक्षिकाओं की कार्य संतुष्टि अत्यंत महत्त्वपुर्ण मनोवैज्ञानिक समस्या है। यह केवल छात्रों के दृष्टिकोण से नहीं वरन् संपूर्ण शिक्षा के दृष्टिकोण में महत्त्व रखता है। इसलिए अधिगम प्रकिया में शिक्षकों की कार्य संतुष्टि का महत्त्व दिन प्रतिदिन बढ़ता जा रहा है। प्रस्तुत शोध अध्ययन में शासकीय एवं गैर शासकीय उच्चत्तर माध्यमिक विद्यालयों में शिक्षको की कार्य संतुष्टि का अध्ययन किया गया है। न्यादर्श के रूप में 200 अध्यापकों का चयन किया गया है जिसमें से 100 शासकीय तथा 100 गैर शासकीय उच्चत्तर माध्यमिक विद्यालयों के अध्यापक थें। अध्यपाकों की कार्य संतुष्टि के अध्ययन हेतु डॉ. एस. के. सक्सेना द्वारा निर्मित "अध्यापक कृत्य संतुष्टि मापनी प्रयोग में ली गई है। शासकीय एवं गैर शासकीय शिक्षको की कार्य संतुष्टि के अन्तर की जॉच के लिये टी टेस्ट परीक्षण का उपयोग किया गया। अध्ययन में पाया गया कि शासकीय विद्यालयों के अध्यापकों की कार्य संतुष्टि गैर शासकीय विद्यालयों के अध्यापकों के कार्य संतुष्टि से सार्थक रूप से ($df = 198$ $p< 0.01$) अधिक है।

शिक्षण संस्थाओं का संचालन किसी एक व्यक्ति विशेष द्वारा नहीं होता बल्कि इसमें शिक्षक, प्राचार्य, शिक्षण संस्थाओं में सहायक के रूप में कार्य करने वाले कर्मचारी विभिन्न निकायों के प्रमुख शिक्षक शिक्षा कि योजना बनाने वाले और इस पर कार्य करने वाले शामिल होते है। शिक्षा प्रकिया में शिक्षक का होना आवश्यक है बिना उसके शिक्षा की प्रकिया का संचालन ही नहीं हो सकता। "शिक्षक, शिक्षा, पाठ्यकम" तीनों ही महत्त्वपूर्ण है। शिक्षा एक महत्त्वपूर्ण सामाजिक किया है इस किया में समाज के सभी सदस्यों का योगदान होता है। शिक्षा और जीवन एक दुसरे से अलग न होने वाली दो प्रकिया है इसलिए समाज के प्रत्येक सदस्य के हृदय में 'शिक्षा' शब्द के प्रति एक निश्चित व विचारपुर्ण भावना होती है इसी के रूप में वह शिक्षा के अर्थ का प्रयोग करता है। ज्ञान प्रदान करने वाली सभी संस्थाओं को शिक्षा संस्थाएं कहते है शिक्षा संस्थाओं के संचालन एवं समस्याओं के समाधान में शिक्षक के महत्त्व को भुलाया नहीं जा सकता।

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प्राध्यापकों की शिक्षकीय प्रभावशीलता पर महाविघालयीन स्वायत्तता का प्रभाव

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*प्रस्तुत अध्यन में शोधार्थी द्वारा यह पता लगाने का प्रयास किया जा रहा है कि प्राध्यापकों की शिक्षकीय प्रभावशीलता पर महाविद्यालयीन स्वयत्ता का क्या प्रभाव पढ़ता है। साथ ही साथ यह जानने का प्रयास भी किया गया कि प्राध्यापकों के महिला या पुरूष होने से उनकी शिक्षकीय प्रभावशीलता पर क्या फर्क पढ़ता है। न्यादर्श के रूप में छत्तीसगढ, दुर्ग जिले के भिलाई शहर के स्वायत्तशासी और गैर स्वायत्तशासी महाविघालय का चयन किया गया है इनमें से स्वायत्तशासी के 2 महाविघालय व गैर स्वायत्तशासी के 6 महाविघालय का चयन किया गया है कुल न्यादर्श की संख्या 200 थी। स्वायत्तशासी और गैर स्वायत्तशासी महाविघालयों के महिला एवं पुरूष प्राध्यापकों के प्रथक्–प्रथक् चार समूह लिये गये तथा उनकें मध्यमान के बीच अन्तर की सार्थकता ज्ञात करनें के लिये टी परीक्षण का उपयोग किया गया है। शिक्षकीय प्रभावशीलता के मापन हेतु डॉ0 प्रमोद कुमार एवं डॉ डी.एन. मुथा द्वारा निर्मित शिक्षकीय प्रभावशीलता मापनी का प्रयोग किया गया है। अध्ययन के परिणाम से पता चलता है कि गैर स्वायत्तशासी महाविघालय के सहायक प्राध्यापक व प्राध्यापिकओं की तुलना में स्वायत्तशासी महाविघालय के सहायक प्राध्यापक व प्राध्यापिकाओं मे शिक्षकीय प्रभावशीलता मे सार्थक ($df = 198$ $p<0.05$) कमी पायी गयी। यह कमी पुरूष सहायक प्राध्यापकों की तुलना में महिला सहायक प्राध्यापकों पर अधिक देखी गयी।

आधुनिक शिक्षा का उद्धेश्य बालक के व्यक्तित्व का संतुलित विकास करना है किन्तु शिक्षकों की व्यक्तित्व योग्यता पर निर्भर करता है कि वह विद्यार्थियों को किस तरह से समझते है । इसमें सहायक प्राध्यापक शिक्षा किस प्रकार दे जिससे विद्यार्थियों को समझ आए, क्योंकि कभी–कभी देखा जाता है अनुभवी प्राध्यापक इसे शीघ्रता से समझाते हैं कि विद्यार्थी को समझ में नहीं आता। अनुभवहीन प्राध्यापक भी कई बार विद्यार्थियों को अच्छें से शिक्षण प्रदान करते है। वे कम व धीमी गति से बताते है। यह जरूरी नहीं कि अनुभवी ही अच्छें से शिक्षण दे। अनुभवहीन प्राध्यापक भी अपने विद्यार्थियों को अच्छा शिक्षण दे पाते है। आधुनिक शिक्षा का उद्धेश्य बालक के व्यक्तित्व का संतुलित विकास करना है जहाँ बालक के व्यक्तित्व का

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Issue of Mental Health and Character Strength in Adolescents: A Cross-Cultural Review

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The present review paper is an attempt to innumerate the issue of awareness about mental health and character strength like gratitude in adolescents in order to focus attention of social scientists on this concern. Understanding about conceptual links of mental wellness and character strength may provide effective way to pursuit of well-being and happiness in human life. Most importantly, the teen population for whom ethical approach seems invaluable and who are at a critical development stage of making key choices about their future. Hence, identifying indicators of mental health and human values like gratitude may equip adolescents with both intrapersonal and interpersonal resources which would help by facilitating adaptive negotiations of the complex adult world. Present author has tried to demonstrate the need of some scientific exploration to enhance the mental wellbeing across culture, because India is known for their cultural diversity and a balanced development should always consider equality across different communities.

Key words- Mental health, gratitude, awareness about mental health

Mental health at present is a prime concern of discussion for all the humanities. It has now more critical issue with the increasing speed of materialistic development of human communities. Because in this rat race of success mental health has became the most avoidable aspect of daily life activities. In the modernity of 21st century when the concept of digital India has been accepted widely, a single sign of cold and fever in children will produce hours of internet surfing for care and remedies by parent, but still a numbers of important indicators of mental health do not take any serious attention by the same guardians. While WHO officially says that, "mental health and well-being are fundamental to our collective and individual ability as humans to think, emote, interact with each other, earn a living, and enjoy life. In the light of this statement government and health organization should consider this issue on priority level, but it is a big question that how it will be possible to aware the people of a country like India which has a lots of variations in their belief system.

India has a rich diversity in its population which incorporates a number of cultures, religions, languages, racial differentiation, castes, communities and social groups. The classification of people in terms of their access to social and economic opportunities and their involvement in the process of development is based on

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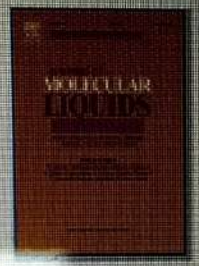

Biophysical studies on the interactions between antidepressant drugs and bile salts

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Highlights

- Paper contains the interaction of antidepressants (CPZ/DSP) with bile salts (NaC/NaDC)

Portrayal of Women in Girish Karnad's *The Fire and The Rain*

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Abstract-

In The Fire and the Rain, Karnad explores modern woman's desires through the torture of the youthful woman, Visakha. Visakha openly denies Paravasu's orders and wants Aravasu not to follow him. The character of Visakha not only poses the conditions of elite women in ancient India who were fettered by the man-made laws of society, worshipped, abused and exploited but also provides an example of certain shades of her personality which are attributed to the feminist movement in the present times. Girish Karnad poses his women protagonists in such way that appears to challenge patriarchal tradition. He revises tradition folk tales and myths in order to create heroines enmeshed in the crossroads of tradition. While Karnad's presentation of the woman is romantic the solutions offered in his plays for the woman's dilemma is realistic with patriarchal overtones. This study finds that Girish Karnad represents the new face of womanhood. He projects his women characters as voice of wisdom which the male counterparts fail to understand it. The death due to jealousy, rivalry and violence could have been averted if the male characters had listened to female wisdom.

Keywords: *Patriarchal tradition, elite women, feminist movement*

Girish Karnad in his *The Fire and the Rain* focuses on traditional Indian woman characters and describes their tragic life in male-dominated society. Though sometimes women try to break tradition but they are forced to follow orthodox patriarchal principles. Women are not given equal right in family and society. Karnad presents two main women characters, Vishakha and Nittilai in the Fire and the Rain, [illegible]

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DIVERSITY AND SEASONAL VARIATION OF SOIL MYCOFLORA OF BILASPUR DISTRICT OF CHHATTISGARH STATE

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ABSTRACT

During present investigation soil samples of different categories viz; rice field soil, Crop field soil and horticultural field soil located in and around Bilaspur district was collected, from five different zones demarcating three sampling sites. Isolation, identification and characterization of fungi from various samples were done to analyze diversity and seasonal variation of soil Mycoflora. Fungi have been divided in to summer; Rainy and winter types based on their occurrence. Using various nutrient media for concerned fungi through serial dilution, spread plate technique and microscopic observation, diverse form of fungal strains were isolated. Nine fungal strains were isolated from samples collected during different seasons of year. Seasonal variation affects the diversity of soil inhabiting fungi underpins many crucial ecosystem services which support the plants and animals typically targeted by conservation efforts.

KEYWORDS: Fungal Diversity, Seasonal Variation, Soil Samples, Ecosystem Services, Conservation Efforts

The diversity and distribution of soil microorganisms has been a interesting subject for scientists over the years. Many fruitful effects of microbes in soil have been investigated (Alexander, 1971; Subba Rao and Gaur, 2000). Diversity of fugal species varies greatly within regions to regions. Distribution of fungi of particular area was affected by seasonal variations, the Number and types of fungal species changes. The climate of Bilaspur district characterized by three seasons i.e. summer, rainy and winter. Several Mycologists in India studied the Soil fungal diversity and their distribution.

The importance of mycological studies of different habitat has been recorded by Manoharachary and Murthy, 1981; Saravankumar and Kaviyarasan 2010; Rane and Gandhe 2006 etc. According to Ainsworth & Bisby 1995, Fungi are an important component of soil microbiota, contributing more soil biomass than bacteria.

MATERIALS AND METHODS

The proposed study area i.e. District of Bilaspur was divided into five zones graphically. For survey and collection of samples three within each zone three category of field soil have been demarcated from all three seasons. A study was conducted in and around Bilaspur district. Soil sample was collected bimonthly for mycological analysis. Extreme care was taken at all times during the whole sampling process to ensure minimal contamination. Soil samples were collected in first week bimonthly of the year. The soil samples are taken from a depth of 0-10 cm then soil were pooled and shaken directly into fresh polythene bags Sterilized high density polythene bags were used as sample scoop. Various media i.e. Potato dextrose agar media, Sabouraud's agar media were used for isolation using the serial dilution plate technique (Johnson & Curl 1972). Fungi were grown at 25±1°C for 5 days. Three replicates were maintained in each case. The sub cultures were carried out to purify the fungal isolates. Isolated fungal Slides were prepared by taking fungal material on slide from Petri dish with the help of forceps or needle. Fungal material was stained with lacto phenol, cotton blue. Fungi so observed were characterized and identified using appropriate taxonomic guides (Alexopoulus, C. J., Mims, C. W. Blackwell, M., 1996).

RESULTS AND DISCUSSION

During present investigation variety of fungal sp. were collected and identified. On the basis of morphological characteristics nine fungal species were observed via direct microscopic examination. Seasonal variation in fungal diversity present in different soil sources have been tabulated (Table-1) and Seasonal variation of fungal isolates were also mentioned in Table-2. The% Frequency of occurrence have been also observed and was measured in triplicate set, which mean value with ± SD have been tabulated (Table-3, Figure-1).

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Allelopathic Effect of Cyanobacterial Strains on Phytopathogenic Bacteria.

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ABSTRACT

Allelochemicals are subsets of secondary metabolites that not required for metabolism of the allelopathic organism and their negative allelopathic effects are an important part of organism defense against antagonists. Allelopathic interactions involving Cyanobacterial flora are being explored for their pharmaceutical and environmental significance. Cyanobacterial allelopathy can be regarded as one of the significant factors influencing their dominance in diverse habitats and as unique producers of a variety of allelochemicals that can be utilized as eco-friendly bio-control agents. In present work detrimental (negative allelopathy) effects of locally isolated Cyanobacterial strains were evaluated against plant pathogenic three bacterial isolates (Bacillus sp., Pseudomonas sp., Xanthomonas sp.). It was observed that the crude extracts of four Cyanobacterial isolates (Microcystis aeruginosa, Oscilatoria boryana, Anabaena sphaerica and Nostoc calcicola), were capable of diminishing the growth and further development of phyto-pathogenic bacterial. Whereas M. aeruginosa showed more allelopathic activity compared to other cyanobacterial strains, Methanol crude extracts were more efficient against Pseudomonas sp. (20.1 ±0.9 mm.), Allelopathic potentiality of cyanobacteria have need ±0.22 mm.) as compared to Bacillus sp. (17.6 ±0.7 mm.), Xanthomonas sp. (18.6 ±0.23 mm.), to be further investigated that can offer promising solutions in bio-control against pathogenic microorganisms.

Keywords: Allelopathy, Cyanobacteria, Phyto-pathogens, Crude Extracts, Bio-control agents.

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HEAVY METAL TOLIARENT SOIL MICROFLORA : A NATURAL RESOURCE OF BIOREMEDIATION

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ABSTRACT

Soil provides mineral material on surface of earth, considerably very suitable culture medium for growth of microorganism, but due to rapid industrialization, so many undesirable substances including heavy metals are being widely distributed in the environment including soil. Soil contaminated with heavy metals, produces unhealthy food that may enter to the food chain as residual elements and may become injurious to human society. Such findings reveal a new area of study to sustain the environment. So to determine the effect of heavy metals on soil, an attempt was done to isolate stress tolerant microbes from soil mixed with different concentration of salts of heavy metal (Hg, Zn, Cu, Cd & Pb). During present investigation three heavy metal salts were selected for assessment of heavy metal tolerance both in bacteria& fungi and such tolerant microbes were isolated and identified. It was noticed that heavy metals affect the total microbial population. Fungi were found to be more tolerant to heavy metals rather than Bacteria. So these microorganisms proved to be the powerful sources for bioremediation of metal contaminated soils.

Key words : *Soil, Microorganisms, Heavy metals, Soil pollution, Bioremediation.*

Heavy metal contamination in the environment is a major concern because of their toxicity and threat to human life and environment. Soil facilitates various biological processes that perform significant services to the ecosystem. But due to natural and anthropogenic activities so many undesirable substances including heavy metals are being widely distributed in the environment including soil. Heavy metals exhibit toxic effects on soil microflora (Pwlowska & Charvat, 2004). Rabia shraf and Tasneem Adam Ali in 2007 studied the effects of heavy metal pollution on natural microbial communities and mung beans seed germination, Ahamad *et al.*, 2005, observed the effect of heavy metal on survival of certain groups of indigenous soil microbial population, that have attracted increased attention. Ahmed *et al.*, 2001, Hayat *et al.*, 2002, observed that heavy metal tolerance via specific group of microorganism in artificial media supplemented with heavy metal showed high tolerance. According to Ali & Wainwright, 1995, The microorganisms can also be applied to remove toxic metals from contaminated areas because they have the ability to accumulate heavy metals. Rajendran et al., 2003, studied the role of microbes in heavy metal remediation. Main objective of our present investigations is to discuss the heavy metal tolerance soil micro flora and their potential in metal remediation.

Control standards of heavy metal of soils :

Heavy metals	Standards mg/kg
Hg	5
Zn	600
Pb	500
Cu	200
Cd	5

MATERIALS AND METHODS

Sample collection : The soil samples during month of September were collected from agronomic field. The field was under cultivation and has received industrial untreated waste water. Soil samples 200g each were collected in sterilized zipped polythene bags and stored at 28±2°C.

Physicochemical characterization of soil : Soil colour , pH & Moisture content all were determined using the methods described by Gupta, (2004).

Metals used in the study : Heavy metal salts i.e. $CuCl_2$ $PbCl_2$ $HgCl_2$, $ZnSo_4$ $CdCl_2$ were Selected for present Investigation. The Soil sample was field into pots (200g/pot) and pots were amended with different concentrations of these metal salts. Control was maintained without any metal amendment.

Isolation and identification technique applied for microorganisms : Isolation was done after 15 days of incubation. Sample were serially diluted and an amount of 0.1ml from the diluted sample was spread on respective culture media, These plates were incubated at ambient temperature- 24 h for bacteria and 4-6 for fungi , Colonies were counted and CFU/g were calculated for bacteria. Pure culture was maintained on respective media. After

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EXCLUSIVE SURVEY TO IDENTIFY GEOGRAPHICAL AREA ENDEMIC FOR WILT COMPLEX OF CHICKPEA

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ABSTRACT

A survey for the incidence of chickpea wilt complex (*F. oxysporum* f.sp. *ciceri*, *R. solani* and *S. rolfsii*) was carried out at 20 locations comprising four blocks of Kabirdham District during winter 2015-16 and 2016-17. The chickpea field, were surveyed at seedling and vegetative stage under both rainfed and irrigated conditions. It is evident from the total wilt complex severity was very high incited by *F. oxysporum* f.sp. *ciceri*, *R. solani* and *S. rolfsii* during the entire crop season and varied from 15.60 to 50.90 per cent at all the locations surveyed. Gangpur village of S.Lohara Block was identified as highly prone area for wilt complex that received 50.90 per cent followed by Mahrajpur of Bodla Block (46.30%). The least incidence of wilt complex was recorded at Nawdeeh of Kawardha Block (15.60%) followed by Dharampura(15.70%).

Chickpea popularly known as Bengal gram or gram is the most important *rabi* pulse crop of this state. Chhattisgarh contributes 2.34 m tonnes that is about 40 per cent of total chickpea production of India (Anonymous, 2005). Chickpea is cultivated through out the Chhattisgarh state and mostly grown in *Kanhar* soil in Chhattisgarh plains particularly Durg, Rajnandgaon, Kawardha, Bilaspur and Raipur districts. However, chickpea productivity is low due to susceptibility of the crop to different biotic and abiotic stresses. Under rice based farming system, the widespread abiotic stress is the moisture stress. Regarding biotic stresses, diseases, insect pests, nematodes and parasitic weeds, account for major losses. For example, extent of yield losses due to wilt and root rot diseases are far more in the event of drought and high temperature in the country.

Singh *et al.* (2002a) conducted trial from 1997-98 to 1999-2000 in the North Western plain zone (Punjab, Haryana, Delhi, Rajasthan, part of Uttar Pradesh and Jammu) under rainfed conditions for the incidence of chickpea wilt complex in 5 different cultivar and reported that the average incidence of *Fusarium* wilt, foot rot and dry root rot were 3.9, 3.1 and 1.3% in PDG 4 cultivar compared to 16.1, 9.9 and 6.1% in PDG 3 cultivar. PDG 4 also registered higher seed yield than the other cultivar.

MATERIALS AND METHODS

Keeping in view of the importance of chickpea wilt complex, survey was carried out in the farmer's field for recording the incidence of disease in different block of Kabirdham district of Chhattisgarh during *rabi* 2015-16 and 2016-17. Twenty villages were surveyed namely Mohgaoun, Dongariya Khurd, Pathari, Kanjaheti, Bharewapuran, Marka, Chardongri, Nawdeeh, Newari, Dharampura Gangpur, Karesara, Ranbeerpur, Kosmanda, Udiakala, Mahrajpur, Manikpur, Neurgaoun and Harinchapara at seedling and vegetative stage of the crop under both irrigated and rainfed condition. The incidence of disease was recorded by random throwing of quadrate (i.e., 1 m^2) in ten farmer's field of each village Plate-1. The number of healthy and diseased plants (wilt/root rot/collar rot) were counted in quadrate and per cent disease incidence was determined by using a formula:

$$\text{Disease incidence (\%)} = \frac{\text{Number of disease plants (with / root rot / collar all rot quadrate)}}{\text{Total number of plant assessed}}$$

RESULTS AND DISCUSSION

A survey for the incidence of chickpea wilt complex (*F. oxysporum* f.sp. *ciceri*, *R. solani* and *S. rolfsii*) was carried out at 20 locations comprising four blocks of Kabirdham District during winter 2015-16 and 2016-17. The chickpea field were surveyed at seedling and vegetative stage under both rainfed and irrigated conditions. The surveyed data are presented in Table-1.

Data of Table-1 reveals that, incidence of wilt complex at seedling stage varied from 5.6-19.8 per cent. The highly prone area of wilt complex were Udiyakala (19.8%) followed by Karesara (19.7%), Mahrajpur (17.8%), Ganpur (17.7 %). The collar rot incidence were higher (2.4 – 9.6%) followed by wilt (1 - 13.3%) and root rot (0 - 6.2%).

Incidence of wilt complex at vegetative stage varied from 7.3-33.2 per cent. At this stage, maximum wilt complex were observed at Gagnpur (33.2 %) followed by Mahrajpur (28.5%), Mohgaon (27.3%), Harinchapara (22.6%). The collar rot incidence were higher (3.7-16.7%) followed by wilt (1.1-18.8%) and root rot (0-4.2%). The incidence of root rot disease was very less at both the

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ysico-chemical Analysis of Drinking Water in Lormi Tehsil of Chhattisgarh

ate

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BSTRACT

rinking water qualities play a significant role in human alth. For present investigation scientific study of physico-emical properties of various drinking water sources ere surveyed in Lormi tehsil in four categories i.e., unicipal supply water, direct bore well water, hand pump ater, and small tank stored water. Samples of drinking ater from each source were collected in sterilized plastic ottles of one liter capacity.Each sample from different ources was subjected to scientific study of physico-hemical properties. Through regular collection this study howed that the drinking water distribution system of ormi tehsil is contaminated and that there is a need for a trict, year-round disinfection strategy to ensure adequate rinking-water quality.

Key words *Drinking water, physicochemical, Lormi tehsil , disinfection strategy.*

The present investigation is being proposed to assess the quality and suitability of drinking water consumed by urban as well as rural people of Lormi Tehshil by scientific study of physico-chemical properties in various samples of drinking water. Hence, the investigation will be focused on chemical pollutants of water available for public use. Obviously water is the carrier of several diseases, either chemical imbalance or microbial contamination in human society.

The physico-chemical parameters of different fresh water systems (river, stream, ocean etc.) have been studied by various researchers (Dere et al., 2006). In addition, several investigators have worked on seasonal variations of heavy metal pollution with microbiological parameters of Biga Stream,Turkey (Yaintas et al., 2007a).Various workers in our country have carried out extensive studies on water quality. Assessment of water quality of kolar reservation in Bhopal (MP) has been done by Kataria *et al.* (1996). Ground water pollution problem and evaluation of its Physico-Chemical properties has also been reported by Singh V. and Chandel S.C.P. (2006).

MATERIAL AND METHODS

Drinking water samples were collected from each of the marked sites and were analyzed to determine its physico-chemical nature monthly. After collection, each sample was labeled clearly. The parameters i. e. Temperture, pH, Total alkalinity, free CO_2, DO, BOD, COD, Chloride, T.H., Calcium hardness, Magnesium hardness, Nitrate, Iron parameters were analyzed. Temperature and pH of the samples were recorded immediately and the samples then carried to the laboratory carefully. For some of the chemical parameter, like dissolved oxygen (D.O.) and alkalinity, the samples were taken in brown glass bottles avoiding any kind of bubbling and were fixed at the site with preservatives. Standard methods (A.P.H.A. – 1971, 1992); were carried out.

Result

The physicochemical analysis of the drinking water samples as observed during present investigation of various parameters have been presented systematically as follows-

Temperature:

The temperature was found to be in the range between 18.5 °C to 28.6 °C during study. The lowest value was observed in January month while the highest value of water temperature observed was attributed to the March month and average temperature range was 20.23 °C

pH:

The pH values fluctuated between 7.3 to. 7.8 , the limit of pH value for drinking water is specified as 6.4 to 8.4, observed data shows slightly alkaline trend. Generally pH of water is influenced by geology of catchments area and buffering capacity of water.

Total alkalinity:

The alkalinity was found with a range of variation between 643mg.l^{-1} to 137 mg.l^{-1} during study. The maximum value was observed in the month of February &. March.

Free CO_2:

The monthly variation in free CO_2 was found to be fluctuate between 10.5 mg.l^{-1} to 30.2 mg.l^{-1} during study.

Dissolved Oxygen:

Dissolved Oxygen of drinking water in different month at all sampling sites, varied from 6.0 mg.l^{-1} to 14.6mg.l^{-1} the lowest range was observed in month of February while the highest range was observed in the month of November.

Biological Oxygen Demand:

Variation in BOD value of samples was observed, the value was ranged from 1.4 to 3.8 mg.l^{-1} BOD value was found maximum in march and it was lowest in August.

Chemical Oxygen demand (COD)

Observed COD value of all the 5 stations were variable ranged from 7 mg.l^{-1}to 18.0 mg.l^{-1}. The permissible limit of COD for drinking water is 253 mg.l^{-1}. Hence the observed COD values in all the 5 stations were well within the desirable limit.

Article

Optimization of Dynamic Resource Scheduling Algorithm in Grid Computing Environment

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Research Article

Improved PSO based job scheduling algorithm for Resource management in Grid computing

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Abstract

Scheduling jobs to resources in grid computing is a co...plicated ... ...ample nature of resources. An efficient job scheduling algorithm is required to reduce the to... ...e and ... ...prove load balancing among resources in the network. The main problems in ...anaging ... ...e and software failures, jobs management downtime, etc. To solve this, the PSO is ...troduced ... ...based on a simplified model of social behaviour exhibited by the buzzing behavi... ...his research we propose a new algorithm for job scheduling, called improved parti... ...proposed algorithm generates a velocity vector that is used to point out that the direction of ... ...and particle position are updated. Therefore, it refines and improves the efficiency of the execut... ...capacity of the global research, the accuracy of the solution and guarantees the load bal...ce of th... ...the grid activities. Consequently, the proposed work has been simulated with the help of ...ptorS... ...has been shown that our proposed algorithm provides an effective solution for planning ... ...network.

Keywords

Grid computing, Job scheduling, Computational grid, ... OptorSim.

1.Introduction

Recent research on computer technology h... ...n and task scheduling are very followed the emergence of a replacement comput... ...complex problems in the grid paradigm called Grid computing. A resource wi... ...ment. To manage these resources, the grid computing environment are some things ... ...ad balancing techniques are are necessary to prevent the associated operat... ...ible for the efficient use of such as a processor used for processing. ... ...uction of work timeout and adjustment of the resources of the computational ... ...tency. After a thorough is responsible for the innovation of resources an... ...sting grid involving a large assignment of an activity to a particular resource. ...ers, we observed that grid general, it is easy to obtain information on the abi... ...s can significantly improve to process data from the available resource [1, 2] ... ...the features of current usage current IT industry is operating with very ... ...6]. amounts of data using additional processing p... ...and high data storage volumes. Grid computin... ...scheduling of the tasks of the proposed as an effective resource management for... ...the allocation of resource organization, since it involves the use of resou... ...are excessively focused on from different spaces, from different owners and ...spects and, based on them, it different individual performance of jobs [3, 4]. ... how a global model can ...all these little details. To ...ns, the new load balancing ...extremely advantageous both ...nd system administration.

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Appreciation of job scheduling algorithm to improve Computating performance in Grid System

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Abstract— *Grid Computing consists of a group of programs and resources which are distributed among the machines on the network. A network system has a dynamic environment and distributes decentralized resources, to manage these resources we need work planning and load balancing techniques. Many researchers have proposed different approaches and algorithms for programming and load balancing for locally distributed multiprocessor systems. However, they face serious shortcomings when they spread in a networked environment. The grid environment has the ability to solve large-scale scientific IT applications. We propose an efficient scheme to achieve approximately optimal load balancing, while maintaining general communication costs. In this survey, a new job planning algorithm is proposed, called Optimal Dynamic Load Balancing (ODLB). In the proposed algorithm, it perfects and improves the execution efficiency, the search capacity of the local and remote search, the accuracy of the solution and guarantees the load balancing of the programming of the network activities in order to reduce the execution times. OptorSim is a useful open source simulation tool for Grid Computing. In this document, a new data-intensive activity schedule called Optimal Dynamic Load Balancing (ODLB) has been proposed, implemented and incorporated as a new programming package in OptorSim. As indicated in the simulation results, the proposed scheduling strategy that has been added to OptorSim improves the average response time, access to local files and the archiving of remote access activities compared to other common activity programming strategies. Modified OptorSim scheduling package benefitted to computing performance.*

Keywords— *Grid Computing, Computational Grid, Load Balance, Resource Management, ODLB, OptorSim.*

I. INTRODUCTION

Grid computing [1] takes its name from the analogy with the electricity network. A commonly used definition of grid is the Internet-based infrastructure that adds distributed and heterogeneous resources as a set for solving large-scale problems. In the grid environment, resources are provided and managed by several administrators. The availability of network resources varies over time and these changes will affect the performance of activities performed on the network. The programming problem is an important problem in a grid computing environment, due to the heterogeneity of IT resources [2]. The efficient mechanism for identifying resources is one of the fundamental requirements for Grid IT systems, as it helps in the management of supplies and in the development of applications.

There is a wide range of heterogeneous and geographically distributed resources on the grid. For example, there is a single processor, multiprocessors, shared memory machines, distributed memory machines, workstations, etc. And they have different capabilities and configurations and are managed in multiple administrative domains with different criteria. In practice, resource management and programming in such a complex environment face a major challenge [3] [4]. The main goal of programming is to maximize the implementation of resources and minimize the processing times of all jobs. Several research papers have been conducted on the problem of scheduling jobs in the grid and the different algorithms have advantages and disadvantages, but further analysis and research are still needed to improve the performance of the programming algorithm in the computational grid [5] [6].

II. LOAD BALANCING IN GRID

Load balancing serves to speed up the execution of the activity in resources whose load changes in the execution phase in an unpredictable way. Load balancing is an important term. The aim is to balance the load of each server to increase system performance and resource usage. Load balancing is a process of ordering activities in computational resources and ordering control between activities and their respective processors.

The goal of load balancing is: to optimize the use of resources, to maximize performance, to minimize response times, to avoid overloading in a single node. Load balancing is like a software program listening on the door where customers connect to access services. This request is forwarded to one of the back-end servers with the help of load balancing, which responds consistently to load balancing. This allowed load balancing to respond to the customer without the customer ever being aware of the internal separation of functions. It also prevents clients from contacting back-end servers directly [7]. Load balancing is carried out for following managing purposes.

- Queue length of CPU.
- Low cost update of the workload.
- Less mean job response time.
- Average queue length of CPU.
- Utilization of CPU.
- Method transfer.
- Increase the system throughput.
- Load assessment.
- Relocation of jobs.

The research consists of six sections that are organized as follows:

Section 1 and section 2 describes the introductory part of research. Section 3 presents the literature survey and the