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Journey Towards Paper-Less Country

Vedanand Kishor Almast

ABSTRACT:-

The capacity of Indian paper industries have been raised to 75,000 tonnes an year. It accounts for about 1.6 % of the worlds total paper production. Indian per capita paper consumption at 9 kg's in 2015-2016.Every year in India about 1.8 million tonnes paper wastage. We cut lakh of tress for paper manufacturing. It takes an average of 5 lit of water to produce 1 piece of A4 size paper. Every tree produces enough oxygen for 3 people to breath for a day. To manufacture 1 tone of paper it requires 17 tress. There fore it is harmful to waste a paper, it also effects the environment.I thought number system can do work for us to reduces wastage of paper with the use of digitalization. All our important documents can be stored through electronic mode. Every citizen should get provided with 10 digit alpha numericcodes called IIN Number (Indian Identification Number). Where ever we required submitting our document, we will provide only IIN number. It will be attach to stored documents of every citizen with electronic mode. This Number is enough to recognise the identity of a person.

Keywords: Crumpling, Utilitarianism, Influx, Numerisation, Dovetails, Meritocracy, Grey Areas, chimerical,Paper Industries,Paper-less, IIN (Indian Identification Number), Digitalization, Waste, environment, Xerox.

INTRODUCTION:-

Paper industries are the most dynamic and growing sector. In Indian economy during the privatization and liberalization in 1991, many outsider industries entered in India. Today India is definitely at par with the knowledge sector of the top economies of the world. Extensive fundamental and applied research is being undertaken here. The world's biggest multinational companies are not only opening their offices, but also their R & D centers in India. This trend is apparent in paper production industries also. Let us make a new resolution for the society this time. The next time when you throw away that piece of paper by crumpling it, just spare yourself a minute and give a thought do you really need to throw that piece of paper or can it be used for some other purpose?

So for, in India, waste paper recycling is done by the unorganized and informal sector, which constitutes the kabaris, seavengers, and middleman and business houses. The collection of waste paper is no doubt the collective responsibility of the state but the union government is also involved in studying policy options for improving the collection and recycling of post-consumer paper or waste paper in India.

- **Some problems in collection of waste paper:-**

In spite of the fact that the government, paper mills, NGO's and other agencies are focusing on the development of collection and recycling programme, as a contribution for green environment, there are some grey areas in the collection of waste paper in India.

- No effective collection mechanism for waste paper from offices and households.
- Use of newspaper for packaging.
- Role of municipalities is not efficient in the current waste management network.
- Lack of large space for storage and sorting of waste paper.
- No proper co-ordination between the informal sector and the main supply chain of waste paper to paper industries.

Top Ten paper Production industries in India (2016-2017)

Sr. no.	Companies	Production (MT)

1	Ballarpur Industries ltd	8,34,050
2	ITC Ltd – PSPD	5,90,000
3	Tamil Nadu Newsprint & Paper	3,71,637
4	The west coast paper mills ltd	3,17,808
5	JK paper ltd	2,92,582
6	The Andhra Pradesh paper mills ltd	2,58,201
7	Century pulp and paper ltd	2,42,906
8	NR Agrawal industries ltd	1,73,072
9	Seshasayee paper & Boards ltd	1,69,438
10	Trident ltd	

Out of total wastage 1.8 millions tonnes in India,
Top Nine State-wise paper wastage (2016-2017)

Sr. no.	States	Tonnes/Year (%)
1	Maharashtra	18.8
2	Tamil Nadu	10.10
3	Andhra Pradesh	10.05
4	Uttar Pradesh	10.01
5	West Bengal	9.8
6	Delhi	9.5
7	Karnataka	8.9
8	Gujarat	8.8
9	Madhya Pradesh	7.6
10	Others	6.44

TRANSFORMATION TO NUMERISATION:-

Out of total 1.8 million tonnes wastage, most of the wastage is due to repetition of similar documents year to year. Xerox of a document paper plays vital role in increasing paper wastage, so transformation towards Numerisation assists in reducing wastage of paper.On shifting to Numerisation we need to do necessary changes in current trends. We have to develop a system that supports Numerisation and store all essential information by which only number can do all the work in future by this way we can reduce Xerox wastage from our society.Create IIN Hub (Indian Identification Number) at central level, and IIN centre at state level and IIN offices at every city of our country.Every citizen of India will get 10 digit Alpha Numeric number from IIN offices, which will be a unique code. Essential documents like PAN card, Aadhar card, various driving license, different educational correspondents, certificate etc, are to be once submitted in IIN office in single Xerox copy, by this way IIN offices will successfully link all your records with your alpha numeric number. IIN office affiliated with IIN centre and IIN centre affiliated with IIN Hub this means all record will be centralized. Whenever we need to submit any documents we just need to give our alpha numeric number i.e. IIN number, instead of submitting

similar documents or Xerox copies.Accountability, accessibility with utilitarianism, it all depends on our government vision and the way they perceive and monitor things.Our main concern now should be whether we are capable of continuing support to such a large influx of R & D. we need to gear up digitalization with the use of Numerisation to meet the growing challenges in our economies.

Conclusion:-

This is not chimerical to imagine a situation where government institutions can function efficiently as foreign ones if they are allowed to operate under level playing conditions. It is true that neither government nor system alone can take care of our environment. What we do in our contemporary times, need is a harmonious co-existence both. It is a part of save tree reforms. It would not be a uncertain to state that IIN can harvest miracle and wow the people, if it dovetails meritocracy problem solved once we begin to visualize Numerisation as an alternative to Xerox.

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Data is based on secondary information, where a primarily discussion has been made with faculties in the digital sector.

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GREEN MARKETING --- ITS STRATEGIES

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ABSTRACT:-

It is the newest type of marketing. It has been discussed by many organizations companies and states. This concept tries to produce, promote and recycle products that are friendly for environment. It is a global concern and it is going to have better future. However this type of marketing meets a few problems such as much efforts to replace conventional products and a lack of confidence .Many companies produce and promote such product as much as possible in spite of this the public is still sceptical. The paper presents the theoretical important knowledge on green marketing.

KEYWORDS:-

5"I" of green marketing, potentials of green marketing, strategies, companies initiatives in green marketing

INTRODUCTION:-

Green marketing products that are presumed to be environmentally safe. It incorporates a broad range of activities, including product modification, changes in the production process, sustainable packaging. It is becoming more popular as many people become concerned with environmental issues and decide that they want to spend money in a way that is kinder to the planet.

It refers to the process of selling product and or services based on their environmental benefits. Such a product or service ma be environmentally friendly in itself or produced in an environmentally friendly way such as being manufactured in a sustainable fashion.. Here the term "green" is indicative of purity. Green means pure in quality and fair or just in dealing.

It refers to the holistic marketing concept wherein the product, marketing consumption of disposal of products and services happens in a manner that is less detrimental to the environment with growing awareness about the implications of global warming, non biodegradable solid waste, harmful impact of pollutants etc. both marketers and consumers are becoming increasingly sensitive to the need for switch into green products and services. Many people believe that green marketing refers solely to the promotion and advertising of products with environmental characteristics. Generally terms like phosphate free, recyclable, refillable, ozone friendly and environment friendly are most of the things consumers often associated with green marketing.

IMPORTANCE AND POTENTIALS:-

Green marketing tries to produce, promote and recycle products that are friendly to the environment. It is a global concern and it is going to have a better future Smart business houses have accepted green marketing as a part of their strategy. Though our understanding about green marketing still in the stage of infancy There is a difference between traditional marketing and green marketing. This difference is somewhat specific. An organization should be able to enforce environmental consideration in to each part of the business, put emphasis on the development of product in such a way that the whole process is of a little negative impact on the environment and meet the needs of consumer. Overall it is very difficult and complex issue. Green marketing marketing must adapt to customer which affects not only the environmental impact but also the social and political reality.

John Grant in his book called the green marketing Manifesto(2007)define green marketing's **five "I"** It is list of feature that should be highlighted by the marketing people in enforcing green marketing . They are:-

1. INTUITIVE:-Basically people never change the shopping habits It becomes very difficult to buy organic products rather than traditional products. Here the job of marketing people arises to make the product accessible.

2.INTEGRATIVE:-Green marketing should combine all the factors such as ecology commerce, technology, social effects marketing .It should link all the areas from production to sale including environmental efforts in the same context.

3. INNOVATIVE:-Marketig people should create new and innovative products in implementing an efficient green marketing into business.

4. INVITING: - marketers using green marketing should create new and innovative environmentally friendly products. From a sales perspective it is vitally important to highlight the current benefits of these products: - beneficial health properties, greater efficiency, durability affordability etc.

5. INFORMED: - The brands of the modern world are there to inform people. People without knowledge of wineries prefer to buy a wine brand just because they see a well known brand as a quality. Green marketing should prefer the contrary. It should spread information –environmental education and awareness.

GREEN MARKETING POTENTIALS:-

Green marketing has recently been a wide spread phenomenon. The share of sales of product that are friendly to the environment and ensure its sustainability has increased each year. Within the green marketing organic food and business activities are both popular.

LIGHTING has been discussed a lot the enterprises try to save energy and reduce energy costs. Natural replacement of artificial light, enabled by the architecture, has become popular. This trend has also appeared in housing. Similarly alternative sources of energy such as solar panels try to preserve the sustainability of such housing.

WASTE PROCESSING has also recorded progress. One of the most interesting method of reducing waste is to use Carbon dioxide emissions as an additive to cement. The efforts to use waste to produce energy and products are made .Finally eco friendly gift wrapping is extremely popular in US market. The trend is use old phone list , maps, atlases, and even old comic books and recycled banana waste instead of wrapping paper.

The current idea of green marketing is to search for inspiration in the future. It is expected that in the future , transparent companies with open access to customers will be successful. The main role will be played by companies that will be able to communicate their values to customers clearly and intelligibly. Predicting is also the success of companies that focus on sustainability. However, these companies must be careful dealing with ethical, environmental and economic goals and keep such goals in balance.

Forecasts in the development of green marketing seem to be very optimistic. We are expecting a continued growth in organics food but also its transfer to other product areas of organic trade. Many companies understand green marketing as an investment in their image. Green marketing is evidently successful for those companies that invest the most money –and they invest in their image.

STRATEGIES OF GREEN MARKETING:-

1**. LEAN GREEN**:- A lean green company tries to be responsible , without focusing on publicizing or marketing their green initiative. It focuses on reducing cost and increasing and efficiency through environmental activities and thus builds a competitive cost advantage. It operates in accordance with the regulations but does not see significance profits that would be connected to the green segments of consumers. It does not promote their green activities or properties of green products because of concern that it would be considered a higher standard that it might not always be able to comply and thus differentiate from the competition.

2**. DEFENSIVE GREEN**:-A defensive green company uses green marketing as prevention in times of crisis or defense against competition .It tries to build an image and is aware that the green market segments are important and profitable. Environmtal activities are honest and sustainable but the pursuit of their promotion is sporadic and temporary,

because its intention is not to distinguish itself from the competition through green activities, it supports and sponsors small green events.

3**. SHADED GREEN**:-this company invests in long run in a very systematic process .It requires substantial and non substantial resources. The company overlooks as an opportunity to build innovative products which fulfils the customer needs It promotes primarily direct and tangible benefits to the consumer and sell product through normal distribution channel.

4**. EXTREME GREEN**:- Company integrates the environmental issue into the process and life cycle of the product. The company often uses special market through specialized retail and distribution channel

COMPANIES INITIATIVES IN GREEN MARKETING:-

Companies that develop new and improved products and services with environments input in minds and give themselves access to new markets , increase their profit sustainability and competitive advantage over the companies which are not concerned for the environment. Following are the companies-

.AMWAY claims that its product is environmentally friendly.

APPLE has adopted the philosophy that going green streams. It recycles e-wastes and also generates revenues.

BADARPUR THERMAL POWER STATION OF NTPC in Delhi is devising way to utilize coal ash that has been a major source of air and water pollution.

HERO HONDA MOTOR'S philosophy of continuous innovation in green products and solutions has enabled it to strike a balance between business, consumer and nature

.**MAHINDRA GROUP** has launched project Mahindra Hariyali in which 1 million trees would be planted nation wide by mahindra employees and other stakeholders

WIPRO INFOTECH was India's first company t o launch environment friendly computer peripherals. For the Indian market, Wipro has launched a new range of desktop and laptops called Wipro green ware .

For better living in the society and sustained economy many other firms are contributing to conservation of environment directly and indirectly.

CONCLUSION:-

Green consumerism includes mainly 3R like Reduce, Reuse and Recycle. It is tool for protecting the environment for the future generation. It has a positive impact on environmental safety. Because of the growing concern of the environmental protection there is an emergence of a new market which is the green market with the threat of global warming looming large, it is extremely important that green marketing becomes the norm rather than an exception or just a fad,. Finally consumers, industrial buyers

and suppliers need to pressurize effects on minimize the negative environmentally friendly.

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Conducting polypyrrolebased thin film composites

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Abstract

The present study reveals with study of electrical, thermal and optical band gap of polypyrrole filled PVC: PMMA thin films themoelctrets. Conducting polymer composites have attracted considerable interest in recent years because of their numeric applications in variety of electric and electronic devices. Polypyrrole has been regarded as one of the most studied conducting polymer because of its physical and electrical properties that have led to several applications such as solid state devices and electronics. The electrical conductivity of polypyrrole filled PVC: PMMA thermoelectrets have been studied. Electret effects in polymers can be produced by orientation of dipoles and /or trapping of charge carriers injected from electrodes as well as generated in the bulk of polymers. It has been shown by thermally stimulated discharge conductivity technique (TSDC) that the characteristics of electrets are very sensitive to the structure of electret forming materials. In this respect TSDC study of composite is likely to yield information about the extent of mixing between the components. Electrets prepared by composites have better charge storage capacity than the individual polymers. Measurements of TSD conductivity have been carried out at different polarizing fields. It has been observed that the conductivity of polypyrrole filled PVC: PMMA composite have been increased with increase in percentage of polypyrrole. The X-RD diffractogram reveals the amorphous nature of the films. The thermograms are plotted between logσ and temperature (10^3/T).From the analysis of the absorption spectra the band gap of polypyrrole filled PVC: PMMA composite have been found to be lie in the range 1.8 eV to 3.3 eV. Thermal stability of Polypyrrole filled PVC: PMMA was investigated by TGA/DSC. It is evident from the results that PPy filled polyblends are more stable.

Keywords: TSDC, Thermoelectrets, Optical band gap, Polypyrrole, TGA/DSC.

1. Introduction:

Polypyrrole is an intrinsic conducting polymer which can be made to have conductivities up to 1000 S-cm^{-1} rendering its versatile applications in batteries, electronic devices, functional electrodes, electro chromic devices, optical switching devices, sensors and so on. In recent years, polypyrrole is popular in research and has been focus of many studies over other conducting polymers because of its high chemical and air stability and ease of preparation [1]. The typical polypyrrole, which is insoluble and infusible, exhibits poor processability and lacks essential mechanical properties. Efforts to overcome these drawbacks have led to numerous researchers on the synthesis of polypyrrole. Among them, a significant strategy to approach high electrical conductivity is preparing blends or composites of polypyrrole polymers with other insulating polymers. (Kassim 2004).

The present study discusses the electrical, thermal and optical properties in PPy filled PVC: PMMA thin film thermoelectrets. Since PVC is proton donor and PMMA is proton acceptor selected as a basic polymeric materials. The choice of these polymers is taken into account for the donor acceptor capabilities. The conducting polymer, polypyrrole is added into these polymers to identify electrical conduction. In number of applications band study is essential, for light emitting diode, transparency in

the visible region combined with high electrical conductivity [2, 3]. Sangawar et al (2006) have studied the band gap determination of PVC-CHARCOAL composite thin film (4). Shaktawat et al (2007) have studied the electrical conductivity and band gap determination of polypyrrole doped with different acids [5].

2. Experimental Details

Polypyrrole was synthesized by chemical oxidative method from pyrrole monomer using ammonium per sulfate as oxidant and p-Toluene sulphonic acid as a dopant. Aqueous solution of pyrrole 0.5 ml in 7.5 ml water was added instantly to a solution of ammonium per sulphate (150 mg) and p-toluene sulphonic acid (500mg). After 5 minutes the product was recovered by filtration, washed with water and dried at 70^0c for 12 hours [6].

Preparation of sample:

Polymethyl methacrylate was supplied by Dental Products India Ltd. (Mumbai). Polyvinyl chloride supplied by Reliance Industries (Mumbai). Pyrrole monomer (Emerck Germany) was supplied by G. Kuntal& Company (Mumbai).

In the present study PPy acts as an additive. To prepare the samples containing the two polymers and additives the following procedure is adapted. For the composite sample of 1 weight percent 0.78 gm of PVC and 0.19 gm of PMMA was dissolved in 30ml of THF and 0.01 gm of PPy was then added in the solution which was kept at 343 K for 12 hrs with continuous stirring for uniform dispersion. After stirring the solution for specific hours the film were prepared by pouring the solution on a clean optically plane glass plate. This glass plate was kept over a pool of mercury to ensure uniform thickness. The whole assembly was placed in a dust free chamber. After complete evaporation of solvent the film was detached from glass surface [7].

Thickness measurement:

The thickness of the sample was measured by the compound microscope in conjunction with an occulometer having a least count of 15.38 µm similar to method reported by Sangawar (2007).The thickness of the sample was kept constant throughout the work and is of the order of 46.14 µm.

Electrode coating:

The electrode coating on the film of measured thickness was done by using quick drying and highly conducting silver paint supplied by Eltecks Corporation, Bangalore. A mask of circular aperture of 2.5 cm diameter was used while coating, to ensure uniformity in the size of the coated silver electrode.

Measurement of thermally stimulated discharge conductivity (TSDC):

Thermo electrets preparation: Experimental sample was sandwiched between two brass electrodes of the sample holder. The metal polymer metal (M-P-M) system so formed was placed inside the furnace. The M-P-M system was heated at a nearly uniform rate up to a polarizing temperature Tp=343 K and was kept constant for 30 minutes. Different polarizing fields (Ep), 4kV/cm, 8kV/cm, 12kV/cm and 16kV/cm were applied using a stabilized D.C. voltage source for 1 hour keeping the field on. The sample was slowly cooled to room temperature under continuing electric stresses. Total time of polarization was adjusted to be 2.5 h in each case. After polarization, the field was removed and the sample was short circuited for 20 minutes in order to remove stray charges if any. Thus thermoelectres were prepared by simultaneous application of heat and different polarizing fields [8].

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After the electret formation the M-P-M assembly was placed in a controlled temperature furnace supplied by Pushpa Scientific, Hyderabad. The sample was thermally discharged at a uniform rate of 2 K/min and the corresponding was measured in the temperature region 313-403. The transmission spectra of Polypyrrole filled PVC: PMMA recorded in the region of wavelength 200-700 nm on Hitachi-330UV-VIS spectrophotometer at room temperature as shown in fig. 4.

3 Results and Discussion:

Figures 1 and 2 shows X-ray diffraction pattern (2θ versus intensity) of 0.5wt % and 7 wt% polypyrrole filled PVC: PMMA thin films. The diffraction pattern shows big humps at low diffraction angles, which confirms the amorphous nature of polymer composites [9].

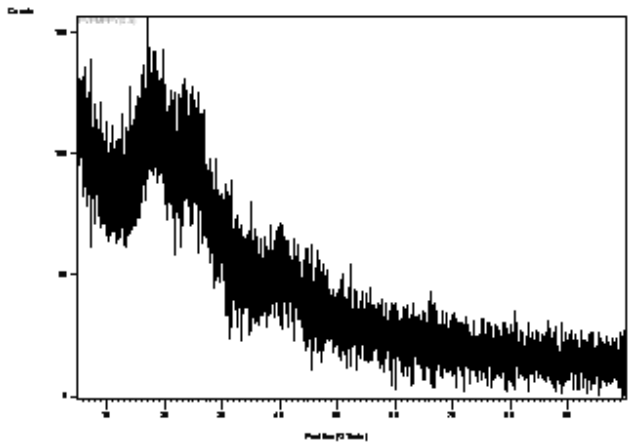


Figure 1 X-ray diffraction pattern for 0.5 wt% PPy filled PVC: PMMA thin films.

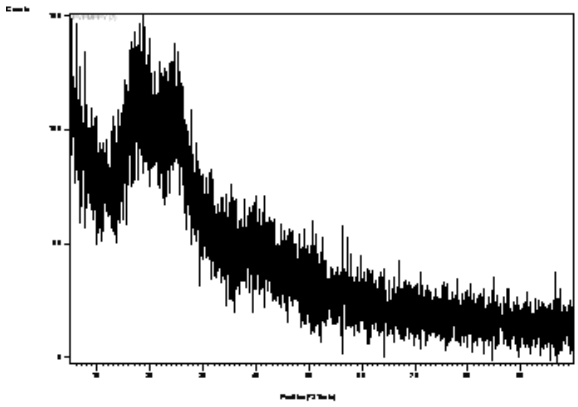


Figure 2 X-ray diffraction pattern for 7 wt% PPy filled PVC: PMMA thin films.

Fig. 3,4and 5 are the thermograms for the thermoelectrets of unfilled PVC: PMMA blends and PPy doped (1, 7 wt %) respectively for different polarizing fields (4, 8, 12 and 16 kV/cm) in the temperature range 313-403 K. The conductivity increases with increasing temperature by an equation

$$\sigma = \sigma_0 \exp(-E_a/KT)$$

Where σ_0 is pre exponential factor, E_a activation energy of conduction and K is the Boltzman's constant.

All samples show semi conducting nature

PVC and PMMA are amorphous polymers but have different electrical conductivities. Patil et al (2001) reported thermally stimulated depolarization current (TSDC) characteristics in configuration of PVC: PMMA bands of different weight percent composition ratio PVC: PMMA (100:0), (90:10), (95:5) and (80:20) as a function of polarizing field and temperature. The better results are obtained for 80:20 weight percent compositions [10]. Therefore in the present study this composition has been selected. The aim of the study is to observe the effect on conductivity of PVC: PMMA blend when PPy added in different weight percent and along with the effect of polarizing field (4, 8, 12, and 16 kV/cm).

Electrical conductivity of PPy involves movement of positively charged carriers or electrons along polymer chain and hopping of these carriers between polymeric chains. Polyvinyl chloride is proton donor and polymethyl methacrylate is proton acceptor. The charge transfer occurs due to increase in electro positivity. The degeneracy of the ground state has an important effect on the nature of charge species. Polypyrrole is nondegenerate ground state polymer. On addition of polypyrrole the polymer chain gets ionized and this ionization process creates polarons having half spin. At low doping level these polarons are carriers of electricity. Increased polarons result in large probability of interaction which in turn results to form bipolaron. Bipolarons are doubly charged but spinless. A single bipolaron is more stable than double polarons. The relatively high conductivity of polymers probably results from motion of spinlessbipolarons. It is also evident that the conductivity also increases with the polarizing field [11-12].

The activation energy values are calculated from the slope of thermograms. It is observed that the value of activation energy decreases with increase in concentration of PPy in PVC: PMMA and is found to be 0.61eV. This is in good agreement with the reported order of magnitudes (S. H. Deshmukh et al 2005) [13].

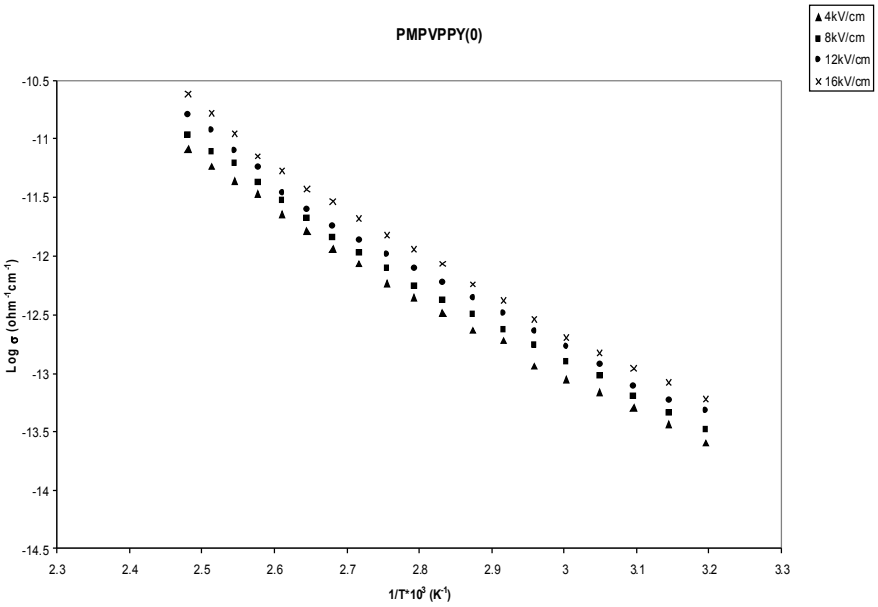


Figure 3 Thermograms of unfilled PVC: PMMA polyblends

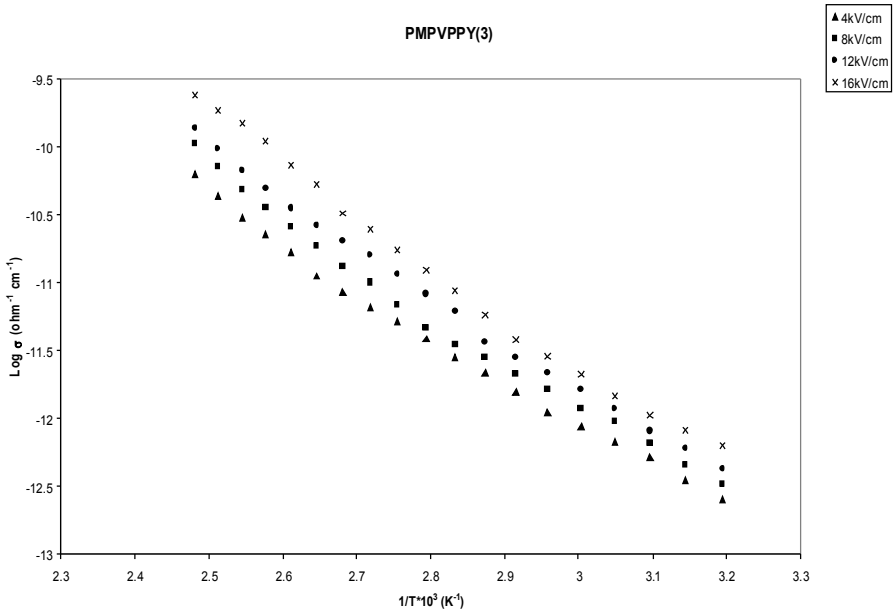
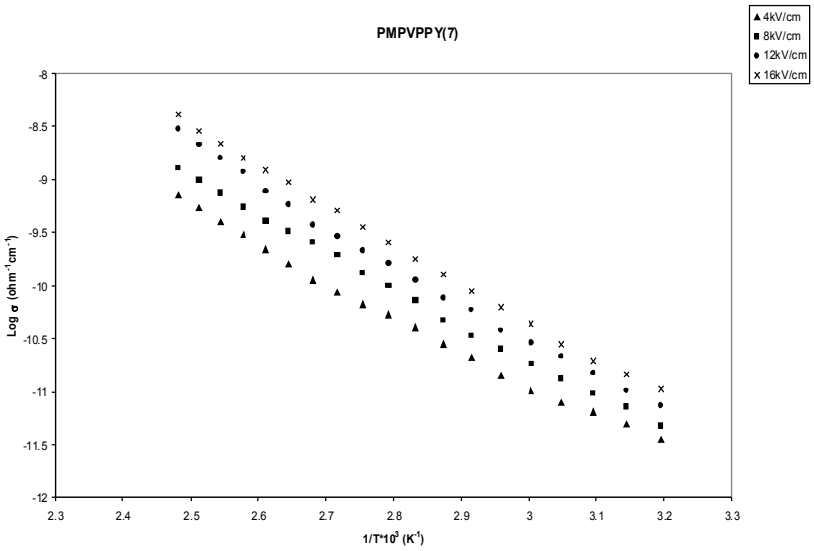


Figure 4 Thermograms of 1% PPy filled PVC: PMMA



2

Figure 4 Thermograms of7% PPy filled PVC: PMMA

The optical transmission spectra of (1) PVC: PMMA, (2) PVPMPPY 1 and (3) PVPMPPY 7 as shown in Fig.4.The absorption coefficient was calculated as a function of photon energy from transmission Vs wavelength curve [14].

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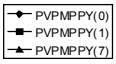

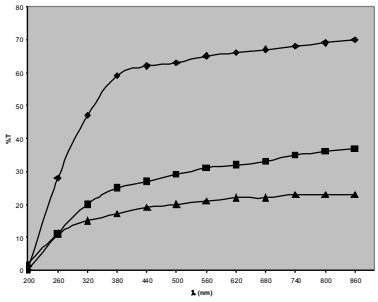

Figure6 Optical transmission spectra of unfilled PVC: PMMA and PPY filled PVC: PMMA

The absorption A is defined as

$$A = \alpha h\nu$$

Where α is the absorption coefficient, h is the Planck's constant and v is the frequency. The absorption coefficient α is directly determined by the relation

$$A = (2.303/d) \log (1/T)$$

Where d is the film thickness and T is the transmittance. The variation in the absorption coefficient with photon energy, hv is given by

$$\alpha h\nu = \beta [h\nu/Eg (opt)]^{m}/h\nu$$

Where Eg (opt) is the optical band gap energy, β is the temperature dependent and describes the degree of randomness of the material (Migahed M.D. 1994) [15]. Fig.5 shows the plot of $(\alpha h\nu)^{1/2}$Vshv. The extrapolation of the straight line to $(\alpha h\nu)^{½}=0$ axis gives the value of band gap energy [16]. From the analysis of these graphs the value of band gap energy for unfilled PVC: PMMA, 1wt% polypyrrole filled PVC: PMMA and 7 wt% polypyrrole filled PVC: PMMA comes out as 3.21 eV, 2.5eV and 1.8eV respectively.

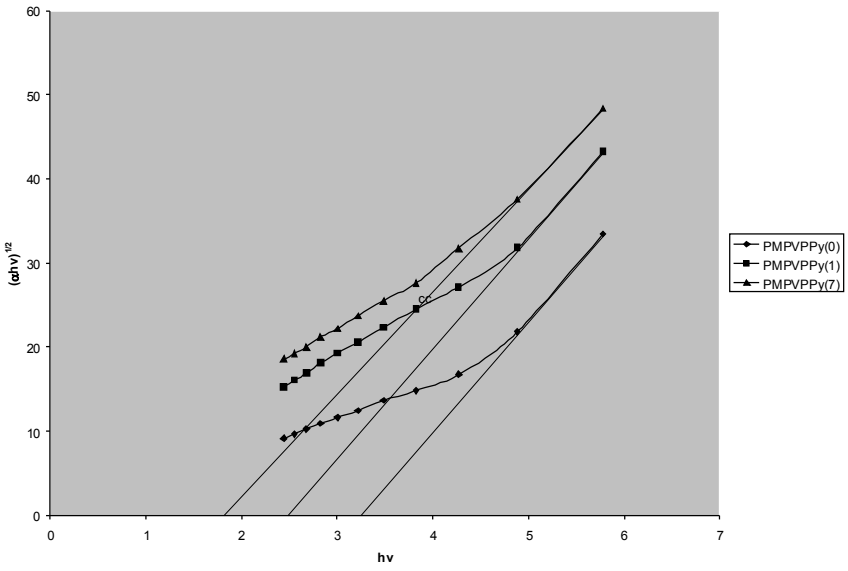

Figure 7 Plots of $(\alpha hv)^{½}$Vshv for unfilled PVC: PMMA and PPY filled PVC: PMMA

The lower values of Eg for higher weight percent addition of polypyrrole may be attributed to the creation of localized states in the band gap as a result of compositional disorder. Also the increase in the number of unsaturated defects increase the density of localized states in the band structure and consequently leads to decreasing the optical gap [17].

Figure 8 and 9 shows TGA/DSC curves for 1 and 7 wt% polypyrrole filled PVC: PMMA

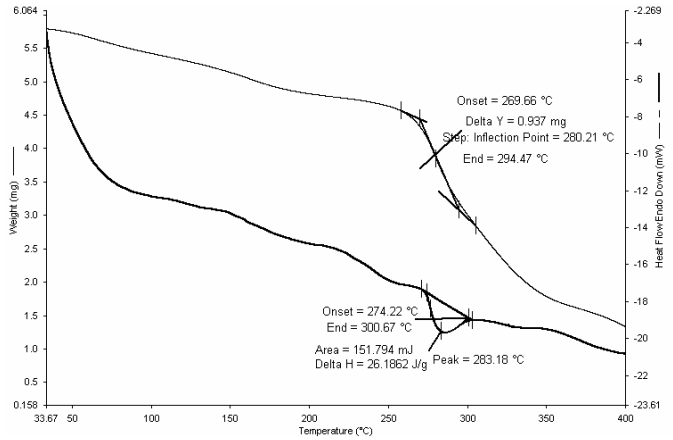

Figure8 TGA/DSC curves for 1wt% PPy filled PVC: PMMA thin films

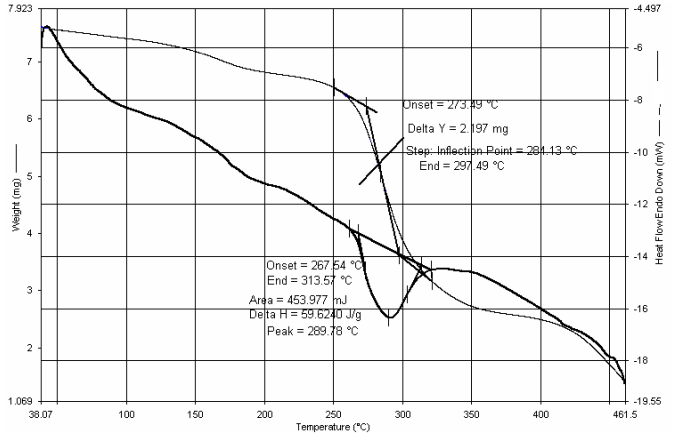

Figure 9 TGA/DSC curves for 7 wt% PPY filled PVC: PMMA Thin films

From the TGA curves it is observed that the onset temperature increases from269^0 C to 273^{0}C.The mass loss for 1wt% PPy filled PVC: PMMA polyblend starts at 269.66 ^{0}C and that for 7wt% starts at 273.49^0 C. It is observed that the mass continues to vary slowly at temperature below 400 ^{0}C. Above this temperature, this process takes place very rapidly. The mass loss at onset temperature decreases from 16% to 15%.

From the DSC curves, three major transitions corresponding to glass transition temperature, melting temperature and vaporization temperature were observed for different concentration of PPy.In present study we have not focused on vaporization temperature since almost all polymers will thermally degrade before they vaporize [18].The endothermic peak and the broad peaks on DSC curves corresponds to melting temperature and glass transition temperature[18].The corresponding melting temperatures for 1wt% and &wt% PPy concentrations are 283.18^0 C and 289.78^{0}C. The glass transition temperature increases from 99 to100^0 C. From the data it is apparent that the thermal degradation began to occur

only after the materials have absorbed certain amount of heat energy (Δ H values). The heat initiated the degradation process and breaking down of molecular chain ruptures [19].

From the TGAdata it is observed that the weight loss of polypyrrole filled composites decreases and the thermal degradation temperature increases with increase in concentration of polypyrrole in the polymers.

The TGA/DSC analysis for polypyrrole filled composites shows that the glass transition temperature slightly decreases with increase in concentration of filler. This shows that polypyrrole filled PVC:PMMA polyblends are more stable.

5 Conclusions:

Present study reveals that the temperature, polarizing field and concentration of PPy influences the conductivity of PVC: PMMA blends. The order of D.C. electrical conductivity of unfilled PVC: PMMA was of the order of 10^{-13} ohm $^{-1}$ cm^{-1}. After doping of PPy in PVC: PMMA in sufficient quantity it is increases to 10^{-7} ohm $^{-1}$ cm^{-1}. The optical band gap energy decreases with increase in percentage of polypyrrole in PVC: PMMA. The optical absorption shows that the polypyrrole filled films have allowed direct transitions. The TGA/DSC analysis shows that the films are thermally more stable. The thermoelectrets are proving extremely important in modern sensing devices. Their utility arises from the fact that they exhibit persistent polarization and a surface charge, which remain stable for a long time [20].

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A FIXED POINT THEOREM IN DENSIFYING MAPPING

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ABSTRACT :

Let A be a bounded subset of a metric space X. By the real number α (A), we denote the infimum of all numbers $\varepsilon > 0$ such that A admits a finite covering consisting of subsets with diameter less than ε. The number α (A), is usually called the measure of non compactness of A, it is easily seen that :

(i) $o \le \alpha (A) \le D (A)$, where D (A) is the diameter of the set A.

(ii) $\alpha (A) = 0$ iff A is precompact.

(iii) $\alpha (A \cup B) = \max \{\alpha (A), \alpha (B) \}$

(iv) $\alpha (\overline{A}) = 0$ iff $\alpha (A) = 0$ (See Szufla (1968) where $\overline{A}$ is the closure of A.)

Furi and Vignoli [1969] introduced the notion of densifying mapping defined as follows : The continuous mapping T defined on X is called densifying if for every bounded subset A of X with $\alpha (A) > 0$, we have $\alpha (T (A) < \alpha (A))$. Furi and Vignoli (1969) Chatterji (1979) etc. how proved and extent some fixed point theorem densifying mappings.

The aim of this paper is to extend a common fixed point theorem of Pachapatce (1984) to densifying mapping. Some fixed point theorems for desifying mapping have been proved by Furi and Vignoli (1969), Chatterjee (1979), Pachpatte (1984), Ray (1975), etc. The object of this paper is to the extend the result of Ray (1975).

Key word*:* Common fixed point, Fixed point and non contracting point Metric Space, Banach Space, Real sequence

Subject Classification Code: MATH- 0X 40-58

MAIN RESULTS

Theorem I :

Let S and T be two continuous densifying mappings on a closed bounded convex subset K of a strictly convex Banach Space X, and satisfy the following conditons.

(i) $\| Sx - STy \| \le a_1 \| x - Ty \| + a_2 \| x - Sx \| + a_3 \| y - STy \| + a_4 \| x - STy \| + a_5 \| Ty - Sx \|$ ..... (1)

(ii) The sequence $\{x_n\}$ defined by $x_{2n+1} = Sx_{2n}$, $x_{2n+2} = Tx_{2n+1}$ n = 0, 1, 2 is bounded

(iii) ST = TS, where $a_1, a_2, a_3, a_4, a_5 \ge 0$ and $a_1 + a_2 + a_3 + 2a_4 = 1$. Then S and T have a common fixed point in X, which is unique.

Proof : Consider the bounded set $A = \bigcup_{n=0}^{x} \{x_{2n}\}$, where x_{2n} defined according to (ii) then.

$TS (A) = \bigcup_{n=0}^{x} \{x_{2n+2}\}$ and so $TS (A) \subseteq A$.

The continuity of S and T implies that $TS(\overline{A}) \subset TS(\overline{A}) \subseteq (\overline{A})$. Hence A is invariant under ST and bounded. To prove $\overline{A}$ is compact. For this it is sufficient to show that α (A) = 0, since in a

complete metric space (and the there by in a Banach space) the precompact sets are also relatively compact.

Suppose $\alpha(A) > 0$. Then by the assumtion $\alpha(TS(A) < \alpha(A))$. On the other hand. $A = \{x_0\} \cup TS(A)$ implies that $\alpha(A) = \alpha[\{x_0\} \cup TS(A)]$

$= \max\{a(x_0), \alpha(TS(A))\}$

$= \alpha(TS(A))$

$< \alpha(A)$

giving a contradiction. Hence A is precompact and so $\overline{A}$ is compact. Define a function f on A by $f(x) = \| Tx - STx \|$ for all $x \in \overline{A}$. Then f is continuous function on the compact subset $\overline{A}$ and so these exits v in $\overline{A}$ such that $f(v) = \inf\{f(x) : x \in \overline{A}\}$. We now show that v is a fixed point of S.

Let us suppose $Sv \neq v$. Then.

$f(Sv) = \| TSv - STSv \| = \| STv - STSv \|$

$\leq a_1 \| Tv - TSv \| + a_2 \| Tv - STv \| + a_3 \| TSv - STSv \| + a_4 \| Tv - STSv \|$

$+ a_5 \| TSv - STv \|$

$\leq a_1 f(v) + a_2 f(v) + a_3 f(Sv) + a_4 [\| Tv - STv \| + \| STv - STsv \|$

$$= a_1 f(v) + a_2 f(v) + a_3 f(Sv) + a_4 (Sv) \leq \frac{a_1 + a_2 + a_4}{1 - a_3 - a_4} f(v) < f(v)$$

A contradiction. Hence $v \in X$ is a fixed point of S. so i.e. $Sv = v$ and $STv = TSv = Tv$. Now we should prove that $Tv = v$. If not, let us suppose that $Tv \neq v$, then.

$\| v - Tv \| = \| Sv - TSv \| = \| Sv - STv \|$

$\leq a_1 \| v - Tv \| + a_2 \| v - Sv \| + a_3 \| Tv - TSv \| + a_4 \| v - TSv \| + a_5 \| Tv - Sv \|$

$= a_1 \| v - Tv \| + a_4 \| v - Tv \| + a_5 \| v - Tv \|$

$= (a_1 + a_4 + a_5) \| v - Tv \|$

$< \| v - Tv \|$

a contradiction. So $Tv = v$

Now we prove uniqueness. If possible let u be another fixed point S and T such that $Su = u$ and $Tu = u$

$\| u - v \| = \| Su - Tv \| = \| Su - TSv \|$

$= \| Su - STv \|$

$\leq a_1 \| u - Tv \| + a_2 \| u - Su \| + a_3 \| Tv - STv \| + a_4 \| u - STv \| + a_5 \| Tv - Su \|$

$= a_1 \| u - v \| + a_4 \| u - v \| + a_5 \| v - u \|$

$= (a_1 + a_4 + a_5) \| v - v \|$

$\leq \| u - v \|$ a contradiction

So $u = v$

This complete the proof.

Remark : On taking $a_2 = a_3$, $a_4 = a_5$ and $T = I$ in theorem 1, we get the result of Ray [5].

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Geography Resource and Meaning and Nature

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Abstract:

Etymologically, 'resource' refers to two separate words-'re' and 'source' that indicate any thing or substance that may occur unhindered many more times. The term 'Resource' had no special significance till the early part of the twentieth century. Only in 1933, when the eminent professor of economics Erich W.Zimmermann promulgated his famous "Concept of Resource", the idea became so popular that numerous articles and papers started pouring in the contemporary Economic Geography literature.

Introduction:

Urgent need was felt to identify the new concept as a separate and important branch of study. Resource, popularly, signifies: a) a source or possibility of assistance. b) anexpedient c) means of support d) means to attain given end. e) Capacity to take advantage of opportunities. f) That upon which one relies for aid support or supply. The above definitions vary markedly and fail miserably to produce any comprehensive universally accepted meaning of resource. However, after, critical examinations and analyses all these meanings can be grouped into i.e., resources may help us if we are; a) taking advantage of opportunity. b) Overcoming obstacles or resistances. The first is a positive approach, the second role of resource is, surely, negative. Resource can be subjective as well as objective. Subjective resource denotes internal resource, objective resource is external resource. Prof. Zimmermann's inimitable definition runs : " The word resource does not refer to a thing or a substance but to a function which or a substance may perform or to an operation in which it may take part, namely, the function or operation of attaining a given end such as satisfying a want. In other words, the word resource is an abstraction reflecting human appraisal and relating to a function or operation".

Keywords:homosphere, heterosphere, tropopause, troposphere, Stratosphere.

Study Objectives:

The present study has the following objectives, i) to study the Discussionresource meaning and nature.

Data Base &Methodology:

The data has been furnished from the related articles, research papers. Some data has furnished the websites & as well as time magazine. For the present research paper the primary and secondary sources have been used. Materials from various libraries have been collected. The articles regarding to it have been read thoroughly. The descriptive and analytical research methods has been used for this research paper.

Discussion in the resource meaning and nature:A thing or substance is not considered as resource when it fails to give satisfaction to human beings. Proven reserves of petroleum in the midst of inaccessible terrain or in the abyss is not considered resource as they fail to yield any satisfaction to either society or individual Geo thermal energy in this contemporary world is

considered to be the most useful resource, but, till recently, this heat-flow was not considered as resource because man was absolutely ignorant about its uses. Resource must possess two important properties: a) Function ability b) utility. To define anything or substance as resource as resource on must critically examine whether in has the property of both utility and function ability. The presence of bothe utility and function ability is mandatory for resource creation.

Resource and Wealth: - In day to day life a common man often uses the terms resource and wealth for same purpose and meaning. Both the words signify the same expression. But in economics and resource study these words convey separate meanings. Wealth, as stated by noted economist J.M. Keynes, "consists of all potentially exchangeable means of satisfying human wants''. So, wealth must possess utility, function ability scarcity and Transferability. But wealth is always measurable, i.e. wealth can be expressed in terms of measuring unit like rupees. So, all wealth are resource but all resources are not wealth. Resource incorporatcs much more than wealth in a sense that culture, technology, innovative power, skill and different other aspects are included in the realm of resource.

Some Discarded ideas and popular Misconceptions about Resources:- Since time immemorial, consciousness about resource is a part of both individual and society. In fact, when human beings began community life to attain security and opulence individuals started to gather wealth and power for future resource creation. For the three basic necessities of survival food, shelter and clothing man had no other option but to be aware about the resources.

a) **Troposphere: -** The lowest layer of the atmosphere is known as the troposphere. It is very important. All possible weather phenomena and atmospheric turbulence take place within this layer. Troposphere contains about 75 per cent of the total molecular or gaseous mass of the atmosphere and virtually all the water vapour and aerosols.

b) **Stratosphere:-** Next to the troposphere lies the stratosphere second important layer of the atmosphere. This layer extends upwards from the tropopause to about 50 km. It is important to note that the stratosphere contains much of the total atmospheric ozone that reflects the harmful X rays, Gama rays etc. back to the upper layers of the atmosphere. The maximum temperature occurs at the stratopause, where the temperature may exceed 0 C. In the stratosphere the density of air becomes very low and even limited absorption produces a large temperature increase. In summer, the temperatures increase fairly generally with height and the temperature is the lowest at the equatorial tropopause. In winter the structure becomes rather complex with very temperatures. In winter the structure becomes rather complex with very low temperatures averaging 80^0 C at the equatorial tropopause. Similar low temperatures are observed in the middle stratosphere at high latitudes.

The Upper Atmosphere:-

a) **Ozonosphere:-**This layer has got its name from the fact that there is a maximum concentration of ozone between 30 to 60 km above the surface of the earth. The scientists are of the opinion that the presence of the ozone layer is a boon for the survival of life it protects us from sunburn by absorbibg the larger percentage of the ultraviolet radiation. The environmentalists have cautioned us about the gradual deterioration of ozone layer recently because of the emission of nitrogen oxides by supersonic air planes which may

cause a serious biological damage to man animal and plant life. Some scientists believe that ozonosphere is actually the upper part of the stratosphere.

b) **Ionosphere:-**According to Patterson ionosphere lies beyond the ozonosphere at a height of about 60km above the surface of the earth. The ionization of the atmosphere begins to occur at this level. This layer is important because it reflects back the radio waves for global radio transmission. The ionosphere is supposed to start 50km and 80km is called the mesopause. The temperature decreases with altitude in this layer. The upper boundary of the mesosphere is known as mesopause.

c) **Exosphere:-** The outermost layer of the earth's atmosphere is known as the exosphere. It lies between 400 and 1000km. Here, air density is extremely low and hydrogen and helium gases predominate.

The Hydrosphere:-

The hydrosphere, or water sphere, mostly covers the depressions of the lithosphere. Some amount of water is also found in the rocks and much exists in the form of water vapor in the atmosphere. The oceans represent about 77 per cent of the globe and therefore contain the great bulk of the water. The average depth of the oceans is about 3,8000m. The total volume of the world oceans is about 1.4 billion cu km. which comprises more than 97 per cent of the world's free water. Of the remaining 3 per cent about 2 per cent is locked up in the ice sheets of Arctic and Antarctica and about 1 per cent is being represented by fresh water of the lands.

The Lithosphere:-

The lithosphere is the upper rigid shell of the earth and is distinctly syb-divided into three layers. They are the central one or the core the intermediate layer called the mantle, and the outer layer known as the earth's crust. Seismic studies have made it possible to distinguish the solid part of the earth into such distinctive layers or zones.

Core:- The core or the centrosphere is the inner and the densest layer of the earth. Seismic data reveals the fact that the outer core is in a liquid like state. The temperature here, presumably, reaches a maximum of about 2500-3000 C on the border separating the mantle from the core. The density of the core is about 13gram per cubic centimeter.

Mantle:-The mantle is the largest intermediate layer of the earth and is confined between the crust and the core. It is distinctly separated by the mohorovicic discontinuity from above and the Weichert-Gutenberg discontinuity from the bottom. The mantle comprises of nearly of the earth's mass. So far only hypothetical assumptions are available regarding the composition of the mantle.

Crust:- The earth's crust is the upper solid part of the earth consisting of magmatic, metamorphic and sedimentary rocks with the thickness that varies between 7 to 70-80km. The crustal layer represents the most active layer of the solid earth- the sphere of activity of all geologic processes. It was believed until recently, that the earth's outer crystal layer was composed of lighter rocks known as SIAL (Si-Silica, Al- Aluminum) which floated on a sea of heavier rocks known as SIMA (Si-Silica, Ma-Magnesium).

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भारत मे किसान आत्महत्यायें

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प्रस्तावना –

आत्मघाती व्यवहार दुनिया मे एक बडी समस्या है। भारत मे आज किसान आत्महत्यायें एक भीषण समस्या बनी हुयी है। जिसके परिणामस्वरूप किसानों के गुणवत्तापुर्वक जीवन पर बुरा असर पडा हुआ है। किसानों का आत्मघती व्यवहार उनके परिवार,समाज और देश पर बुरा प्रभाव डालता है। द युनायटेड नेशन ऑन सस्टेनेबल डेव्हलपमेंट (UNCSD) के सर्वे के अनुसार सन 1997 से 2005 तक भारत मे हर 32 वे मिनट मे एक किसान आत्महत्या कर रहा है। नॅशनल क्राईम रिकार्ड ब्युरो (NCRB) के आंकडे देखने पर पता चलता है की, 2015 तक किसानों की आत्महत्या में 42% की वृद्धी हुयी है। देश मे 2014 तक हर दिन 15 किसान आत्महत्या कर रहे थे, जो मानविय दृष्टि से देखनेपर एक सोचनीय बात सिद्ध होती है। कई अध्ययनों ने विभीन्न स्तरो और पैमानो के आधार पर किसानों के आत्महत्या का अध्ययण किया हुआ है। भारत मे कृषी संकट, बढती उत्पादन लागत, आय की कमी, कृषी ऋण, कम उत्पादकता, बाजार की विफलता और पारिवारीक असमतोल के आधार पर आत्महत्या का अध्ययण कीया हुआ है। इसमे कृषक की ऋणग्रस्तता को मुख्य कारण बताया गया है। राष्ट्रस्तर पर देखे तो यह पैमाना सच साबीत हो राहा है। भारत मे किसान आत्महत्या के कारणों मे ऋणग्रस्तता का प्रमाण 20.6%, पारिवारीक समस्या 20.0% खेती सबंधित मुद्दे 17.2%, बिमारी 13.2%, और नशिले पदार्थोका सेवन 4.4% है। राज्य स्तर पर अध्ययण यह बताता है की, महाराष्ट्र, मध्यप्रदेश और छत्तीसगड मे क्रमशा 57%, 46% तथा 37% आत्महत्या का कारण ऋणग्रस्तता रही है। नॅशनल सैंपल सर्वे आर्गनाइजेशन (NSSO) के आंकडे बताते है की, भारत मे 2013 से 52% फार्म हाऊसों की स्थिती अत्यंत खराब अवस्था मे है।

शब्द कुंजी – किसान, आत्महत्या, भारत

अध्ययण का उद्देश – 1) किसान आत्महत्या के कारणों की खोज।
2) सरकारी योजना का प्रभाव।

आत्महत्या की व्याख्या –

आत्महत्या शब्द का पहली बार प्रयोग सर थॉमस ब्राउन द्वारा 1642 मे तथा वाल्टर चार्लेटन द्वारा 1657 मे कीया गया। इनसायक्लोपेडीया ब्रिटानिका के नुसार 'आत्महत्या एक घातक परिणाम का कार्य है, जो मृतक के घातक परिणाम के ज्ञान और अपेक्षा के साथ किया गया कार्य है।'

हेमरीन-एनस्टवेटेड (1988) के अनुसार,'आत्महत्या एक गतिवीधी है, जिसमे उद्देश के साथ कार्य शामील है।'

मेरीयम वेबस्टर के अनुसार,'स्वेच्छा से और जानबुझकर अपने स्वयं के जिवन को समाप्त करने की क्रीया है।'

किसानो की आत्महत्या के कारण –

भारत के संदर्भ मे किसानो की आत्महत्या के लिये अनेकों कारणों की चर्चा अनेक विद्वानो ने अपने शोध प्रकल्पो मे कीया गया है।

1) लागतो मे वृद्धी – किसानों पर ऋण का बोझ खेती की लागतो की वृद्धी के कारण हो रहा है। वर्तमाण मे कृषी कि लागते 2005 की तुलना मे चार गुणा बढ गयी है। बिज एव। रसायन, कृषी उपकरण और कृषी श्रम की लागते देश मे दिनों दिन बढती जा रही है, जिसे पुरा करणा साधारण किसान के बस का नही रहा है।

2) कृषी ऋण – भारत मे सावकारी तथा संस्थागत दोनो ऋणों का भार किसानो पर देखा जा रहा है। NCRB के आंकडे बताते है की, अकेले महाराष्ट्र मे 1,293 आत्महत्या के पिछे ऋणग्रस्तता यह एकमात्र कारण था। कर्नाटक मे यह 946 थी। 2015 के आकडों से पता चलता है की, महाराष्ट्र मे हुयी 3,000 किसान आत्महत्या मे से 2,474 किसानो ने केवल ऋणग्रस्तता के कारण आत्महत्या की है।

3) जल संकट – खेती की मान्सुन पर निर्भरता खेती विकास मे रूकावट पैदा करती है। 2001 मे महाराष्ट्र मे सिंचायी का क्षेत्र लगभग 18% था। 2013-14 मे भारत मे कुल कृषी भुमी का केवल 4.7 – 14 % भुमी मे ही सिंचायी सुविधा उपलब्ध करायी गयी थी जबकी आज केवल 34.5% क्षेत्र मे ही देश मे सिंचायी सुविधा उपलब्ध है।

4) छोटे किसानोंकी अधिक संख्या – भारत मे छोटे और सिमांत किसानों की संख्या सबसे ज्यादा है।

वर्ग	**भुमी धारक संख्या%**
छोटे किसान	60%
सिमांत किसान	19%
बडे किसान	7%
भुमीहीन	14%

स्त्रोत-www.kmwagri.com

सरकारी राहत –

2008 मे कृषी ऋणमाफी और ऋण राहत योजना मे 65,000 करोड रू. की लागत से 36 मिलीयन से अधिक किसानोंको लाभान्वीत किया गया। यह खर्च किसानों द्वारा लिये गये व्याज के साथ-साथ ऋण मुलधन के हिस्से को लिखने के उद्देश पर किया गया। 2013 मे भारत मे सरकार ने आंध्रप्रदेश, महाराष्ट्र, कर्नाटक और केरल के किसानों के आत्महतया वाले क्षेत्रो के लिए एक विशेष पशु क्षेत्र और मत्स पालन पैकेज शुरू किया। इस पैकेज का उद्देश किसानों के आय स्त्रोतो मे विविधता लाना था। किसानों की आय और सामाजिक सुरक्षा मे सुधार के बहुआयामी दृष्टिकोण के बावजुद केंद्र सरकार के अनुसार 2013 के बाद हर साल कृषी क्षेत्र मे 12,000 आत्महत्या दर्ज कि गयी। भारत मे किसान आत्महत्या का दर 10% है। 1995-2015 के बिच पंजाब राज्य से 4,687 किसानों की आत्महत्या हुयी, जिसमे से अकेले मानसा जिले से 1,334 किसानों ने आत्महत्या की है।

मंजुनाथ रिपोर्ट के अनुसार, देश मे पुरूष किसानो के साथ-साथ महिला किसानों की संख्या देश मे बढ रही है। कुल किसान आत्महत्या मे महिला किसानों का आत्महत्या दर 15% रहा हैं इसमे तेलंगाना मे 36%, गुजरात 10%, तमिलनाडु 7%, बंगाल 7%, छत्तीसगड 4%, कर्नाटक 4%, महाराष्ट्र और मध्यप्रदेश मे 2% महिला किसानों की आत्महत्या हुयी है।

जाती के आधार पर हुये अध्ययण पर मंजुनाथ रिपोर्ट दर्शाती है की, आत्महत्या ग्रस्त किसानों मे सबसे ज्यादा OBC वर्ग के 46% किसान थे। इसके बाद 29% जनरल, 16% S.C. , तथा 9% S.T. वर्ग के लोगों का समावेश था। S.C. तथा S.T. आत्महत्या ग्रस्त किसान सबसे ज्यादा अकेले छत्तीसगड राज्य से थे। आत्महत्या करने वाले किसानों मे आयु के आधार पर अध्ययण करने पर यह बात सामने आयी है की, आयु 31 से 60 वर्ग मे आत्महत्यायें सबसे ज्यादा थी। इनमे से सबसे अधिक विवाहित थे, अविवाहितों की संख्या सिर्फ 9% पायी गयी।

भारत मे राष्ट्रिय अपराध ब्युरो ने 1995 से किसानों की आत्महत्या का रिकार्ड रखना शुरू किया है। 2014 मे भारत के राष्ट्रिय अपराध ब्युरो ने 5,650 किसानों की आत्महत्या की सुचना दर्ज की है।

सन 2015 मे किसानों की आत्महत्या राज्य के अनुसार

राज्य	संख्या
महाराष्ट्र	3,030
तेलंगाना	1,358
कर्नाटक	1,197
मध्यप्रदेश	581
आंध्रप्रदेश	516
छत्तीसगड	854

स्त्रोत- NCRB 2015

देश मे किसानों की आत्महत्या

वर्ष	संख्या
1995	10,720
1998	16,015
2002	17,971
2004	18,241
2010	15,964
2011	14,027
2012	13,754

2013	11,772
2014	12,360

स्त्रोत- NCRB

सन 2016 मे अकेले महाराष्ट्र राज्य मे 23,000 से अधिक किसानों ने आत्महत्या की हैं। हाल ही मे देश की संसद मे किसानों की आत्महत्या पर प्रश्न पुछा गया जिसके जवाब मे देश के कृषी राज्य मंत्री पुरूषोत्तम रूपाला ने लिखत जवाब मे कहा कि,'2015 तक की किसानों की आत्महत्या की रिपोर्ट उनकी वेबसाईट पर उपलब्ध हैं। 2016 के बाद की रिपोर्ट अभी तक प्रकाशीत नही हुयी है।' कृषी राज्य मंत्री का यह जवाब हमे बताता है की सरकार किसानों की आत्महत्या पर कीतनी चिंताग्रस्त हैं। अगर भविष्य मे भी भारतीय किसानों के प्रती सरकार का यही दृष्टिकोण राहा तो भारत मे किसान क्रांती तथा अर्थव्यवस्था में अस्थिरता का माहौल बन सकता हैं। अब तक कि गयी सरकारी मदत किसानों की आत्महत्यायें रोकनें मे ज्यादा सफल नही हो पायी है।

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चंद्रपुर व गडचिरोली जिल्हयातीलशासकिय, निमशासकिय कर्मचाऱ्यांवर असलेला अतिरीक्त कार्यभार, त्यामुळे निर्माण होणारा व्यावसायीक ताण व त्याच्या दुष्परीणामाचा चिकित्सक अभ्यास

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प्रस्तावना

ताण हा मनुष्याच्या जीवनातील अपरिहार्य घटक झालेला आहे. प्रचिन काळापासुन मानवाच्या सभोवताली किंवा जीवनामध्ये जीवन जगत असतांना ताण नेहमी जानवत आहे. आधुनिक जीवनामध्ये अधिकाधिक ताणामुळे माणसे अनेक व्याधींनी ग्रासली गेलेली आहे. या ताणामुळे मानवाला अनेक विकारांनी ग्रस्त केल्याचे निदर्षनास येत आहे.

ताणाचा विचार केला असता ताण हा व्यक्ती परत्वे बदलत असतो. काही वेळा तो बाहय घटकातून निर्माण होतो. आधुनिक जीवनामध्ये जगण्याकरीता वापरण्यात येणारी मानवी जीवनशैली, त्यातील अनिछितता, कामाची असुरक्षितता त्यामुळे मानवी जीवन हे तणावग्रस्त झालेले आहे. त्याचबरोबर आधुनिक युगातील संगणक प्रणालीचा वापर करून अनेक कार्यालयामध्ये कार्यालयीन कामे केली जातात परंतू कामाचे स्वरूप ज्यास्त पण कार्यप्रणाली हाताळणारे कर्मचारी कमी त्यामुळे सहाजिकच कामाचा व्याप वाढत आहे. आणि त्यामुळे अनेक कर्मचारी संघटनांकडुन किंवा कर्मचाऱ्यांकडुन तक्रारी निर्माण होत आहे व जे कर्मचारी तक्रार करीत आहेत त्यांना कामाच्या दबावामुळे सतत ताणाला समोरे जावे लागत आहे. काही प्रशासकिय कार्यालयामध्ये शासनाच्या कर्मचारी भर्ती बंदच्या प्रक्रियेमुळे कर्मचाऱ्यांची संख्या कमी होत आहे. परंतू कामाचा व्याप मात्र वाढत आहे. त्यामुळे काही अधिकारी व कर्मचारी यांचेकडे अतिरिक्त पदभार सुद्धा प्रशासनातर्फे सोपविला जात आहे. त्यामुळे सहाजिकच अधिकारी किंवा कर्मचारी पुर्वस्थितीतील अधिकच्या कामामुळे ग्रासलेला असतांना त्याला अतिरिक्त पदभार सोपविण्यात आल्यानंतर त्याच्याकडील कामाची दिशा नक्किच विभागली जाइल आणि पुर्विच्या कामातील व्याप आणि हल्ली सोपविण्यात आलेल्या पदभाराच्या कामातील व्याप परंतू कामाचे तास सारखे या परिस्थितीमध्ये सदर अधिकारी किंवा कर्मचारी अती कामाच्या व्यापामुळे ग्रासला जात आहे. आणि सहाजिकच सदर अधिकारी किंवा कर्मचारी यांना ताणाला सामोरे जावे लागेल यामुळे हल्लीच्या काळातील अधिकारी किंवा कर्मचारीव्यावसायीक ताणाणे ग्रासला गेलेला आहे आणि प्रशासकिय कार्य वेळेत पार पाडण्याच्या अट्टाहासामुळे अधिकारी किंवा कर्मचारी यांना अनेक शारीरीक तथा मानसिक व्याधींनी ग्रासले गेलेले असल्याचे निदर्षनास येत आहे.

व्यावसायिक ताण

मध्यंतरीच्या काळामध्ये वेगवेगळी शोध लागली देशात क्रांती घडुन आली नवनविन शिक्षणाची दालणे निर्माण झाली त्याकरीता अनेक महाविद्यालये निर्माण झाली अनेक प्रशासकीय कार्यालये स्थापन झाली. त्यामध्ये अनेक प्रकारचा कर्मचारी वर्ग, अधिकारी वर्ग काम करू लागला परंतू आधुनिक युगामध्ये काम करणारे हात कमी परंतू कामाचे स्वरूप वाढत गेले आहे, कामाचा व्याप वाढत गेलेला आपणास पाहावयास मिळत आहे. सदर कामाला लागणारे स्वरूप व त्याचे नियम प्रशासणा तर्फे नेहमिच बदलत आहे. बदलत्या प्रशासकिय नियमांमुळे वाढत असलेला कामाचा व्याप सुद्धा वाढत चालला आहे. परंतु त्यादृष्टीने प्रशासकिय कायदयामुळे, शासणाच्या धोरणामुळे कर्मचारी संख्यांचा नियमित होणारा घट आणि कार्यरत कर्मच्याऱ्यांवर वाढणारा प्रशासकिय कार्याचा बोझा त्यामुळे अनेक माहाविद्यालये, प्रशासकिय कार्यालये यामध्ये अनेक कर्मचाऱ्यांकडे अतिरीक्त पदाचा कार्यभार सुद्धा सोपविण्यात आलेला निदर्शनात येत आहे. परंतू कमाचे स्वरूप बदलत आहे, कामाचा व्याप वाढत आहे परंतू पुर्विच्या तसेच हल्लीच्या स्थितीमध्ये कामाचे स्वरूप वाढत असुन सुद्धा कामाचे तास तेच त्यामध्ये दोन किंवा त्यापेक्षा अधिकच्या कामाला वेळेत पुर्णत्वास आणणे अशक्य होत आहे. आणि नियमाच्या अधिन राहुन प्रशासकिय कार्य वेळेत पार पाडण्याच्या अट्टाहासामुळे अनेक अधिकारी कर्मचारी यांना तणावपुर्ण वातावरणाला समोरे जावे लागत आहे आणि त्यांच्या जीवणावर ताणाचा प्रत्यक्ष अप्रत्यक्ष परिणाम होत आहे. त्यामुळे कर्मचाऱ्यांनां शारीरीक व्याधींना समोरे जावे लागत आहे. त्यामध्ये कर्करोग, हृदयरोग, रक्तदाब (कमी किंवा जास्त) डोके दुखी मायग्रेन इत्यादी आजारांना समोरे जावे लागत असल्याचे चित्र निर्माण झाले आहे अशा प्रकारच्या व्यावसायिक ताणाचे स्वरूप आढळुन येत आहे.

संशोधनाची आवश्यकता व महत्व

शासकिय निमशासकिय कर्मचाऱ्यांच्या जीवनातील व्यावसायिक ताण हा अपरिहार्य घटक झालेला आहे. देशाची प्रगती व कौटुंबीक उदरनिर्वाह या गोष्टीचा गाडा हाकण्याकरीता सर्व कर्मचाऱ्यांच्या खांदयावर असलेली धुरा निटपणे वाहण्यासाठी त्यांना या प्रकारला समोरे जावे लागत आहे. आणि प्राचिन काळापासुन मानवाच्या सभोवताली ताण जानवत आहे. याच ताणमुळे अनेक विकार मणाला आणि शरिराला जडलेले आहे. कर्मचारी यांचेवर राष्ट्राचे भवितव्य अवलंबुन असते असे म्हणायला हरकत नाही.

कर्मचारी कार्यालयामध्ये गेल्यावर कार्यालयीन दिलेले कार्य वेळेत पार पाडण्याची जबाबदारी असते त्याच बरोबर कामाचा व्याप सोबत कौटुंबिक जबाबदारी सुद्धा पार पाडावी लागते, समाजातील परंपरे नुसार वागावे लागते त्याच बरोबर कर्मचाऱ्यांचे एक स्वतंत्र अस्तित्व आहे.तो आपल्या कुटुंबाचा कुटुंब प्रमुख असतो त्याला शासकिय काम सुद्धा करावे लागते. त्याला स्वतःच्या प्रगतीसाठी सुद्धा कार्य करावे लागते त्याला समाजासाठी व कुटुंबासाठी सुद्धा जबाबदाऱ्या पार पाडाव्या लागतात. या सर्व भुमिका पार पाडत असतांना त्याला ताण निर्माण होतो आणि त्यामुळे त्याच्या शारिरिक मानसिक व दैनंदीन कार्यालयीन जबाबदारीत किती व कोणत्या प्रकारे प्रभाव पडतो या करीता चंद्रपुर तथा गडचिरोली जिल्हयातील शासकिय निमशासकिय कर्मच्याऱ्यांवर असलेला अतिरिक्त कार्यभार, त्यामुळे निर्माण होणारा व्यावसायीक ताण व त्याच्यादुष्परिणामाचा चिकित्सक अभ्यास" या विषयाची विषयाची निवड करीत असतांना संशोधक त्याच कार्य क्षेत्रातील असल्यामुळे त्यांच्या मणातील प्रश्नचिन्हामुळे चंद्रपुर तथा गडचिरोली जिल्हयातील शासकिय निमशासकिय कर्मच्याऱ्यांवरील वाढत असलेला ताण त्यांच्यातील बदलाव त्यामुळे त्यांच्यावरील दुष्परीणाम व बदलत चाललेली मानसिक स्थिती इत्यादीचे गुढ उकल करण्याच्या दृष्टीने संबंधीत संशोधन व्हावे या करीता या विषयाची निवड करण्यात आलेली आहे.

समस्या

"चंद्रपुर व गडचिरोली जिल्हयातील शासकीय निमशासकिय कर्मचाऱ्यांवरअसलेला अतिरिक्त कार्यभार, त्यामुळे निर्माण होणारा व्यावसायीक ताण व त्याच्यादुष्परिणामाचा चिकित्सक अभ्यास"

संशोधन उद्दिदष्टे

1. चंद्रपुर व गडचिरोली जिल्हयातील शासकिय निमशासकिय कर्मचाऱ्यांवर निर्माण होणाऱ्या व्यावसायिक ताणाचा अभ्यास करणे.
2. चंद्रपुर व गडचिरोली जिल्हयातील शासकिय निमशासकिय कर्मचाऱ्यांवर निर्माण होणाऱ्या व्यावसायिक ताणाच्या दुष्परिणामाचा अभ्यास करणे.

संशोधनाची व्याप्ती

1. सदर संशोधन चंद्रपुर व गडचिरोली जिल्हयातील शासकिय व निमशासकिय कर्मच्याऱ्यांन बाबत आहे.
2. सदर संशोधन विषयांकित कर्मच्याऱ्यांवर निर्माण होणारा व्यावसायीक ताण, त्याचे दुष्परिणाम याच्या अभ्यासाबाबत आहे.

संशोधनाच्या मर्यादा

1. प्रस्तुत संशोधन हे शासकिय निमशासकिय कर्मचाऱ्यांपुरते मर्यादित करण्यात आले आहे.
2. प्रस्तुत संशोधन हे शासकिय निमशासकिय कर्मचाऱ्यांवरील निर्माण होणारा व्यावसायीक ताण, त्याचे दुष्परिणाम या पुरते मर्यादित करण्यात आले आहे.

न्यादर्श

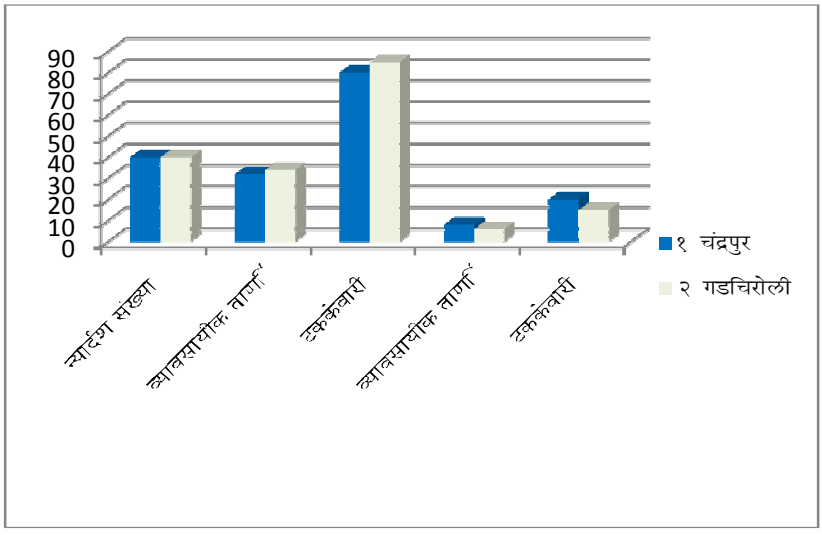
न्यादर्श मध्ये चंद्रपुर व गडचिरोली जिल्हयातील शासकिय तथा निमशासकिय कार्यालयातील कर्मचाऱ्यांचा समावेश करण्यात आलेला आहे प्रस्तुत संशोधना करीता चंद्रपुर जिल्हयातील 40 शासकिय निमशासकिय कर्मचारी तसेच गडचिरोली जिल्हयातील 40 शासकिय निमशासकिय कर्मचारी समावेशीत आहे.

प्रस्तुत संशोधन करण्याकरीता संशोधनाची पद्धत ही मुलाखत पद्धतीने असल्यामुळे त्या संबंधी प्रश्नावली तयार करून सदर प्रश्नावलीद्वारे कर्मच्याऱ्यांची मुलाखत घेऊन माहिती गोळा करण्यात आली व तीच प्रश्नावली लिखीत स्वरूपात कर्मच्याऱ्यांकडुन सोडवुन घेण्यात आली.

विश्लेषण सारणी तक्ता

अ. क्र.	विवरण	कर्मच्यारी संख्या	व्यावसायीक ताण असल्याबाबतचे मत	टक्केवारी	व्यावसायीक ताण नसल्याबाबतचे मत	टक्केवारी
1	चंद्रपुर	40	32	80%	08	20%
2	गडचिराली	40	34	85%	06	15%

आलेख



चंद्रपुर जिल्हयातील शासकिय निमशासकिय कर्मच्या-यांवर गडचिरोली जिल्हयातील शासकिय निमशासकिय कर्मच्या-यांपेक्षा थोडा निम्न प्रतीचा व्यावसायीक ताण दिसुन येत आहे. त्यादृष्टीने गडचिरोली जिल्हयातील शासकिय निमशासकिय कर्मच्या-यांवर चंद्रपुर जिल्हयातील शासकिय निमशासकिय कर्मच्या-यांपेक्षा थोडा उच्च प्रतीचा व्यावसायीक ताण दिसुन येत आहे परंतू दोनही जिल्हयातील शासकिय निमशासकिय कर्मच्या-यांवर असलेला व्यावसायीक ताणामध्ये सार्थ फरक दिसुन येत नाही. म्हणजेच सदर दोनही जिल्हयातील शासकिय निमशासकिय कर्मच्या-यांवर व्यावसायीक ताण आहे.

निष्कर्ष

चंद्रपुर आणि गडचिरोली जिल्हयातील शासकिय निमशासकिय कर्मच्या-यांवरील असलेला व्यावसायीक ताणाचा अभ्यास करित असतांना उपरोक्त नुसार सारणिचे अवलोकन कले असता चंद्रपुर आणि गडचिरोली जिल्हयातील शासकिय निमशासकिय कर्मच्या-यांवर व्यावसायिक ताण खुप मोठया प्रमाणात असल्याचे निष्पण झालेले आहे आणि त्यामुळे सदर कर्मच्या-यांमध्ये मानसिक व शारिरीक दुष्परीणाम दिसुन येत आहे. त्यामध्ये दमणे, राग येणे, निरउत्साह तसेच पित्ताचे विकार, भुक न लागणे, वनज कमी होणे, हृदयरोग, दमा, रक्तदाब, मधुमेह इत्यादी विकार उपरोक्त कर्मच्या-यांमध्ये आढळुन येत आहे.

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