Sakthi College of Arts and Science, Oddanchatram

DVV Clarifications / 04.05.2022 / Metric LD: 3.3.3.

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Sakthi College of Arts and Science, Oddanchatram

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To

Whomsoever concerned

Sir / Madam,

Ref: DVV Clarifications – 04.05.2022 / Metric ID: 3.3.3.

The details of the Selected Research Papers are annexed. We apologise that the two papers published by E. Amutha has been wrongly mentioned by us for this metric because she was no more in service in 2017 and so her affiliation is different.

- E. Amutha, Assistant Professor of Mathematics
  International Journal of Current Research in Science and Technology
  On Counting g-β Continues Functions, 2394-5745, 2017.

- E. Amutha, Assistant Professor of Mathematics
  International Journal of Current Research in Science and Technology
  Weakly g-w Closed sets, 2394-5745, 2017.

Dr. R. Thendral 10/05/22

PRINCIPAL

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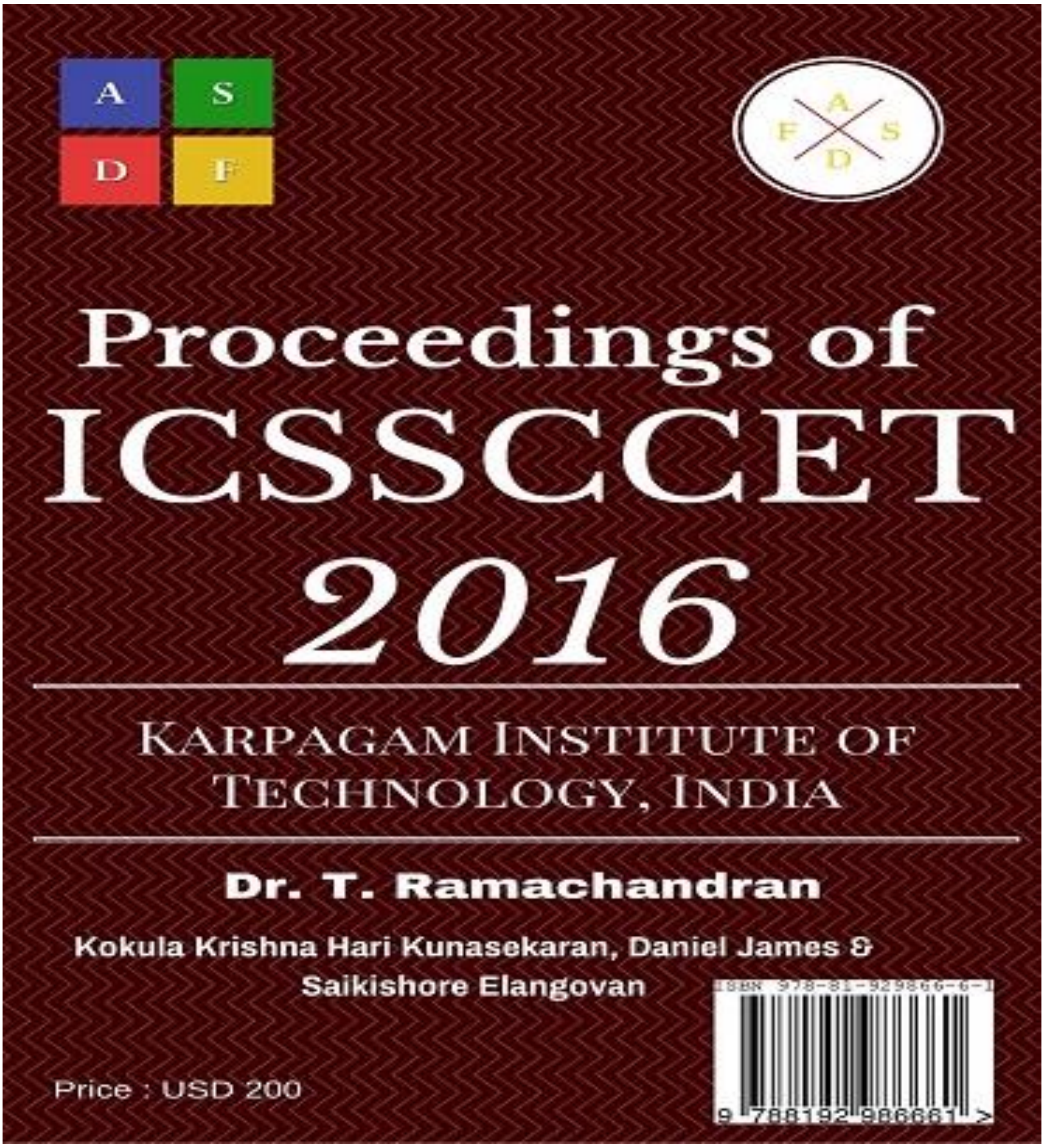
Oddanchatram, Dindigul Dist - 624 619.

Name of the teacher	Name of the Journal	Title of the paper	National/ International, E ISSN or P ISSN, LINK	Year of Publication
R.Thenmozhi, Assistant Professor of Chemistry	International Conference on Systems, Science, Control, Communication, Engineering and Technology	Preparation of Spherical Silica Nanoparticles by Sol-Gel Method	International 978-81-929866-6-1 https://edlib.net/2016/icssccet/ICSSCCET2016077.pdf	February 2016



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International Conference on Systems, Science, Control, Communication, Engineering and Technology 2016 [ICSSCCET 2016]

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Preparation of Spherical Silica Nanoparticles by Sol-Gel Method

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Abstract: *Silica nanoparticles were synthesized by sol gel method from tetraethyl orthosilicate (TEOS), ethanol (C_2H_5OH), water (H_2O) and ammonoium hydroxide (NH_4OH) as catalyst. The morphology and structure of colloidal silica particles formed depend on the molar ratio of reagents. The XRD patterns show the amorphous nature of the particles. SEM image shows that spherical structure of silica nano particles, whose particle is varied by using different molar ratio of TEOS, C_2H_5OH and NH_3. TEM image shows that spherical structure of silica nano particles, whose particle is determined by using same molar ratio of TEOS, C_2H_5OH and NH_3.The EDAX analyses prove the successful synthesis of silica material.*

1. INTRODUCTION

Silica nanoparticles are widely used in industrials such as electronic devices, insulator, catalysis or pharmaceuticals [1, 2] due to their attractive properties in optical properties. The most popular process of obtaining silica nanoparticles is through sol gel technique [3-7]. It involves the simultaneous hydrolysis and condensation reaction of the metal alkoxide. The resultants desired particles size and morphology of silica particles are produced through controlling parameters such as concentration of alkoxide, amount of water and concentration of ammonia or acid and solvent and aging time.

2. Experimental Methods

2.1. Preparation of Silica (SiO_2) Nano powder

Chemicals used in this experiment are Tetraethyl Orthosilicate (TEOS), concentrated Ammonia (NH_3) and Ethanol (C_2H_5OH) solution. Tetraethyl Orthosilicate (TEOS) is used as the silica source. Aqueous ammonia solution was used as the catalyst. All the chemicals are purchased from Aldrich without further purification. Distilled water was used throughout the experiment Silica nanoparticles were synthesized using a standard procedure with experimental conditions provided in Table 1. The product was grained to get the silica nanoparticle.

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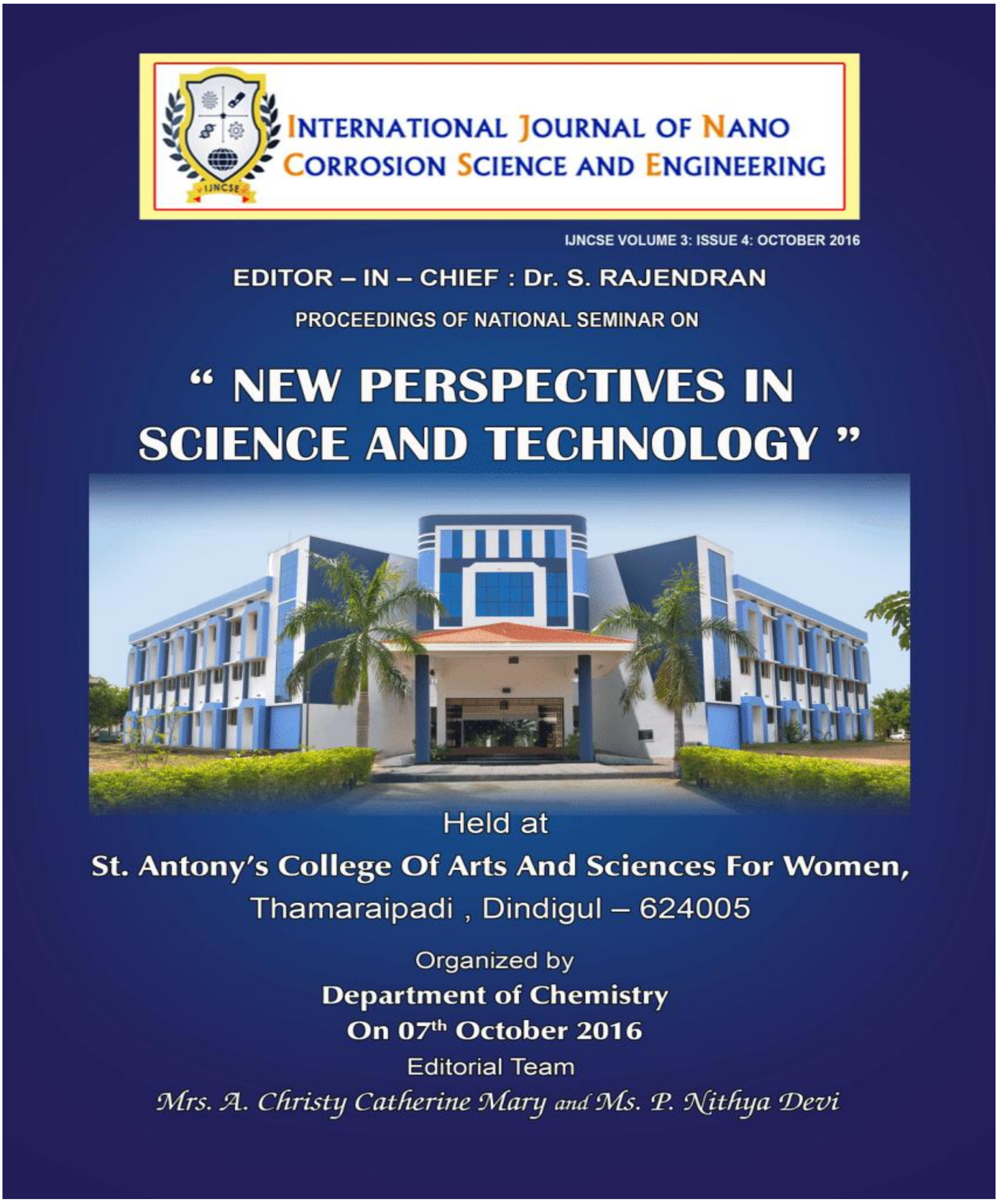
Name of the teacher	Name of the Journal	Title of the paper	National/ International, E ISSN or P ISSN, LINK	Year of Publication
V.Johnsirani Assistant Professor of Chemistry	International Journal of Nano Corrosion Science and Engineering	Corrosion Inhibition By Natural Dyes	International ISSN(Online)- 2395-7018	October 2016



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INTERNATIONAL JOURNAL OF NANO CORROSION SCIENCE AND ENGINEERING

Corrosion Inhibition By Natural Dyes

V.Johnsirani[1], J.Sathiyabama[2] and SusaiRajendran[3]

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Abstract

The Inhibition efficiency [IE] of an aqueous extract of pipali powder in controlling corrosion of carbon steel in sea water [Thondi, Tamil Nadu, India] has been evaluated by weight loss method. The weight loss study reveals that PD formulation consisting of 10mL of PD (pipali Dye) and 25 ppm of Zn^{2+} has 92% inhibition efficiency in controlling corrosion of carbon steel in sea water. A synergistic effect exists between PD and Zn^{2+}. Polarization study reveals that PD and Zn^{2+} system functions as mixed type inhibitor. The nature of the metal surface has been analysed by FTIR spectra.

Key words : Carbon steel,Corrosion, sea water, Electrochemmical techniques, FTIR, AFM.

Inter Collegiate Meet- National Level Seminar on "New Perspective in Science and Technology", (NPST-2016), 7th October, 2016- St Antony's College of Arts and Sciences for Women, Thamaraipadi, Dindigul, India.

Name of the teacher	Name of the Journal	Title of the paper	National/ International, E ISSN or P ISSN, LINK	Year of Publication
E. Amutha, Assistant Professor of Mathematics	International Journal of Current Research in Science and Technology	On Counting g-β Continues Functions	International 2394-5745	2017

International Journal of Current Research in Science and Technology
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ISSN: 2394-5745
Available Online: http://ijcrst.in/

International Journal of Current Research in Science and Technology

On Contra $g\beta$-Continuous Functions

Research Article

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3 Department of Mathematics, P.M.Thevar College, Usilampatti, Madurai, Tamil Nadu, India.

Abstract: In this paper, we introduce and investigate the notion of contra $g\beta$-continuous functions by utilizing $g\beta$-closed sets [33]. We obtain fundamental properties of contra $g\beta$-continuous functions and discuss the relationships between contra $g\beta$-continuity and other related functions.

MSC: 54C08, 54C10, 54C05.

Keywords: $g\beta$-closed set, $g\beta$-continuous function, contra $g\beta$-continuous function, contra $g\beta$-graph, $g\beta$-normal space.

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1. Introduction

In 1996, Dontchev [9] introduced a new class of functions called contra-continuous functions. He defined a function f : X → Y to be contra-continuous if the pre image of every open set of Y is closed in X. In 2007, Caldas et al. [4] introduced and investigated the notion of contra g-continuity. In 1968, Zaitsev [36] introduced the notion of π-open sets as a finite union of regular open sets. This notion received a proper attention and some research articles came to existence. Dontchev and Noiri [10] introduced and investigated π-continuity and πg-continuity. Ekici and Baker [11] studied further properties of πg-closed sets and continuities. In 2007, Ekici [12] introduced and studied some new forms of continuities. In [17], Kalantan introduced and investigated π-normality. The digital n-space is not a metric space, since it is not T_1. But recently Takigawa and Maki [34] showed that in the digital n-space every closed set is π-open. Recently, Ekici [13] introduced and studied contra πg-continuous functions. In 2010, Caldas et. al. [7] introduced and studied contra πgp-continuity.

In this paper, we present a new generalization of contra-continuity called contra $g\beta$-continuity. It turns out that the notion of contra $g\beta$-continuity is a weaker form of contra β-continuity and a stronger form of contra $\pi g\beta$-continuity [28].

2. Preliminaries

Throughout this paper, spaces (X, τ) and (Y, σ) (or simply X and Y) always mean topological spaces on which no separation axioms are assumed unless explicitly stated. Let A be a subset of a space X. The closure of A and the interior of A are denoted by cl(A) and int(A), respectively. A subset A of X is said to be regular open [31] (resp. regular closed [31]) if A

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Name of the teacher	Name of the Journal	Title of the paper	National/ International, E ISSN or P ISSN, LINK	Year of Publication
E. Amutha, Assistant Professor of Mathematics	International Journal of Current Research in Science and Technology	Weakly g-w Closed sets	International 2394-5745	2017

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International Journal of Current Research in Science and Technology

Weakly g-ω-closed Sets

Research Article

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3 Department of Mathematics, P.M.Thevar College, Usilampatti, Madurai, Tamil Nadu, India.

Abstract: In this paper, another generalized class of τ called weakly g-ω-closed sets is studied and the notion of weakly g-ω-open sets in topological spaces is also studied. The relationships of weakly g-ω-closed sets with various other sets are investigated.

MSC: 54A05, 54A10.

Keywords: τ, generalized class, weakly g-ω-closed set, topological space, generalized closed set, g-ω-closed set, preclosed set, preopen set.

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1. Introduction

The first step of generalizing closed sets (briefly, g-closed sets) was done by Levine in 1970 [6]. He defined a subset S of a topological space (X, τ) to be g-closed if its closure is contained in every open superset of S. As the weak form of g-closed sets, the notion of weakly g-closed sets was introduced and studied by Sundaram and Nagaveni [11]. Sundaram and Pushpalatha [12] introduced and studied the notion of strongly g-closed sets, which are weaker than closed sets and stronger than g-closed sets. Park and Park [9] introduced and studied the notion of mildly g-closed sets, which is properly placed between the class of strongly g-closed sets and the class of weakly g-closed sets. Moreover, the relations with other notions directly or indirectly connected with g-closed sets were investigated by them. The notion of ω-open sets in topological spaces introduced by Hdeib [4] has been studied in recent years by a good number of researchers like Noiri et al [8], Al-Omari and Noorani [1, 2] and Khalid Y. Al-Zoubi [5]. The main aim of this paper is to study another generalized class of τ called weakly g-ω-open sets in topological spaces. Moreover, this generalized class of τ generalize g-ω-open sets and weakly g-ω-open sets. The relationships of weakly g-ω-closed sets with various other sets are discussed.

2. Preliminaries

Throughout this paper, $\mathbb{R}$ (resp. $\mathbb{Q}$, $(\mathbb{R}-\mathbb{Q})$, $(\mathbb{R}-\mathbb{Q})_-$ and $(\mathbb{R}-\mathbb{Q})_+$) denotes the set of real numbers (resp. the set of rational numbers, the set of irrational numbers, the set of negative irrational numbers and the set of positive irrational numbers). In this paper, (X, τ) represents a topological space on which no separation axioms are assumed unless explicitly stated. The closure and interior of a subset G of a topological space (X, τ) will be denoted by $cl(G)$ and $int(G)$, respectively.

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Name of the teacher	Name of the Journal	Title of the paper	National/ International, E ISSN or P ISSN, LINK	Year of Publication
P. Poongodi Assistant Professor of Mathematics	International Journal for Scientific Research & Development|	Note on Domination in Graphs with Bounded Degree	International ISSN (online): 2321-0613	2017

409	**Developing Strategies for Performance Improvement of Rajkot BRTS** -Rahul D Matariya ; P. A. Shinkar Abstract Cite Download	Transportation Engineering	India	1509-1514
410	**Comparative Study of 400 kV M/C Suspension and Tension Tower with Rectangular and Square Base** -Viral Rameshbhai Kapadiya Abstract Cite Download	Structural Engineering	India	1515-1517
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415	**Performance Evaluation of Electric Tricycle** -Sapna B. Verma ; Hiteshree Sakhare; Nehal Kanhare; Amit Dodke	Electrical Engineering	India	1533-1535

Note on Domination in Graphs with Bounded Degrees

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Abstract— Let G be a graph and D a set of vertices such that every vertex in G is in D or adjacent to at least one vertex in D. Then D is called a dominating set of G and the smallest cardinality of such a dominating set of G is known as the domination number of G, denoted by $\gamma(G)$. This paper is a study of the domination number in graphs with bounds on both the minimum and maximum degrees.

Key words: Domination set, Domination Graphs, Bounded Degrees, Domination Number, Minimum Degrees, Maximum Degrees

I. Introduction

In this section, we define the necessary concepts that will be used throughout this paper and give a brief overview of the history of domination theory and define the necessary domination concepts that will be used.

A. *Preliminary definitions:*

A graph G is a finite nonempty set of objects called vertices (the singular is vertex), together with a (possibly empty) set of unordered pairs of distinct vertices of G called edges. The vertex set of G is denoted by $V(G)$ (or V if no confusion is likely), while the edge set of G is denoted by $E(G)$ (or E).

The number of vertices in $V(G)$ is denoted by $n(G)$ which is also known as the order of the graph G, while the number of edges in $E(G)$ is denoted by $m(G)$. A graph G is trivial if $n(G)=1$ and non – trivial if $n(G)\geq 2$. For a graph G, if $n(G)=n$ and $m(G)=m$, then G is called an (n,m) graph. Unless otherwise specified, the symbols n and m $(or\ n(G)\ and\ m(G))$ will be reserved exclusively for the order and number of edges respectively of a graph G. By $G=(V,E)$ we will imply the graph G with vertex set V and edge set E.

The edge $e=uv$ is said to join the vertices u and v. If $e=uv$ is an edge of G, then u and v are adjacent vertices, while u and e are incident as are v and e. Furthermore, if e_1 and e_2 are distinct edges of G incident with a common vertex, then e_1 and e_2 are adjacent edges.

A simple graph G is a graph that has at most one edge between every pair of distinct vertices and there is no edge in $E(G)$ joining any vertex in $V(G)$ to itself. Throughout the text we will only consider simple undirected graphs.

The compliment $\overline{G}$ of a graph G is the graph with vertex set $V(G)$ and such that two vertices are adjacent in $\overline{G}$ if and only if these vertices are not adjacent in G.

B. *Domination in Graphs:*

Let G be a graph and D a set of vertices such that every vertex in G is in D or adjacent to at least one vertex in D. Then D is called a dominating set of G, and the smallest cardinality of such a dominating set of G is known as the domination number of G, denoted by $\gamma(G)$. A minimal dominating set of G is a dominating set of G such that no proper subset $S'\subset S$ is a dominating set.

II. Domination in Graphs with Minimum Degree Two

For any graph G, consider any subset $S\subseteq V$. Then $G(S)$ denotes the subgraph of G induced by S. Furthermore, E(S) denotes the edge set of $G(S)$. For $J\subseteq\{xy / x, y\in V\}$ we form the graph G – J (resp. $G\cup J$) $=(V, E-J(resp.\ E\cup J))$ where V and $E-J(resp.\ E\cup J)$ denotes the vertex and edge set (respectively). If J = {uv}, then G – J (resp. $G\cup J$) is replaced by G – uv (resp. G + uv). We define the graph (G – S) – J as the graph G(V – S) – J.

Let G = (V, E) be any graph and $0<c\leq 1$, then we say G is c – dominated if $\gamma(G)\leq c|V|$ and D is c – dominating set and $|D|\leq c|V|$. Furthermore, if S and T are subsets of V, then we say that S is a dominating set of $G(S\cup T)$.

Now let B(G) be the set that consists of all vertices in G that have degree not equal to two. i.e ,

$$B(G)=\{v\in V / \deg(v)\neq 2\}.$$

For $v\in B(G)$, the connected component of $G-(B(G)-v)$ containing v is said to be the 2 – graph of v. If $\delta(G)\geq 2$, then each vertex of the 2 – graph has degree two in G, except for v itself. The 2 – graph consists of edge disjoint cycles through v (2 – graph cycles) and paths starting at v (2 – graph paths).

III. Domination in Graphs with Maximum Degree Three

The aim of this chapter is to show that a graph G with n vertices, e edges, i isolated vertices and maximum degree

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