

# ਸ਼ਹੀਦ ਮੇਜਰ ਹਰਮਿੰਦਰਪਾਲ ਸਿੰਘ (ਸ਼ੈ.ਚੱ.) ਸਰਕਾਰੀ ਕਾਲਜ, ਸਾਹਿਬਜ਼ਾਦਾ ਅਜੀਤ ਸਿੰਘ ਨਗਰ

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**3.2.1: Institution has created an ecosystem for innovations, Indian Knowledge System (IKS) including awareness about IPR, establishment of IPR cell, Incubation centre and other initiatives for the creation and transfer of knowledge/technology and the outcomes of the same are evident.**

# ਸ਼ਹੀਦ ਮੇਜਰ ਹਰਮਿੰਦਰਪਾਲ ਸਿੰਘ (ਸੈ.ਚੈ.) ਸਰਕਾਰੀ ਕਾਲਜ, ਸਾਹਿਬਜ਼ਾਦਾ ਅਜੀਤ ਸਿੰਘ ਨਗਰ

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## Research and promotion initiatives

### ● Patent



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# CERTIFICATE OF GRANT INNOVATION PATENT

**Patent number:** 2021107060

The Commissioner of Patents has granted the above patent on 17 November 2021, and certifies that the below particulars have been registered in the Register of Patents.

**Name and address of patentee(s):**  
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**Title of invention:**  
A SMOOTHING TECHNIQUE FOR SQUARE ROOT EXACT PENALTY FUNCTION IN CONSTRAINED OPTIMIZATION

**Name of inventor(s):**  
Singh, Amanpreet; Sood, Darpan and Singh, Amrit Pal

**Term of Patent:**  
Eight years from 24 August 2021

NOTE: This Innovation Patent cannot be enforced unless and until it has been examined by the Commissioner of Patents and a Certificate of Examination has been issued. See sections 120(1A) and 129A of the Patents Act 1990, set out on the reverse of this document.

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## Research Papers

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### SUBCLASSES OF ANALYTIC FUNCTIONS RELATED TO SIGMOID FUNCTION

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#### ABSTRACT

In this paper, the authors investigate the initial coefficient bounds for some new subclasses of analytic functions related to Sigmoid function. Also the relevant connections to Fekete-Szegö inequality and Hankel determinant for these classes are briefly discussed. Our results serve as a new generalization in this direction.

**Mathematics Subject Classification:** 30C45, 33E99

**Keywords:** Analytic functions, Convex function, Sigmoid function, Starlike function, Subordination.

#### 1 INTRODUCTION AND PRELIMINARIES

The theory of special functions is significantly important to scientists and engineers. Though not with any specific definition but its applications extend to physics, computer etc. Recently, the theory of special functions has been overshadowed by other fields like real analysis, functional analysis, algebra, topology and differential equations.

There are various special functions but we shall concern with one of the activation function known as sigmoid function or simple logistic function. Activation function is an information process that is inspired by the biological nervous system such as brain processes information. It comprises of large number of highly interconnected processing element (neurons) working together to solve a specific task. The function works in similar way the brain does, it learns by examples and cannot be programmed to solve a specific task.

The sigmoid function of the form

$$h(z) = \frac{1}{1 + e^{-z}} \quad (1.1)$$

is differentiable and has the following properties:

- It outputs real numbers between 0 and 1.
- It maps a very large input domain to a small range of outputs.
- It never loses information because it is a one-to-one function.
- It increases monotonically.



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## A New Subclass of Univalent Functions

By Gagandeep Singh, Gurcharanjit Singh & Harjinder Singh

*Majha College for Women*

**Abstract-** In this paper, a new subclass  $\chi_r(A, B)$  of close-to-convex functions, defined by means of subordination is investigated. Some results such as coefficient estimates, inclusion relations, distortion theorems, radius of convexity and Fekete- Szegő problem for this class are derived. The results obtained here is extension of earlier known work.

**Keywords:** subordination, univalent functions, analytic functions, convex functions, close-to-convex, coefficient estimates, fekete- szegő problem.

**GJSFR-F Classification:** MSC 2010: 30C45



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A Second Order Smoothing Penalty Function Algorithm for Constrained Optimization Problems

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## A Second Order Smoothing Penalty Function Algorithm for Constrained Optimization Problems

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**Abstract** The current paper introduces a second order smoothing technique for classical  $f_1$  exact penalty function in constrained optimization problems. Error calculations for optimum solution values for non-smoothed, smoothed penalty problem and for the original problem have been discussed in the paper. An algorithmic procedure for obtaining the solution is demonstrated and convergence is discussed.

**Keywords** Penalty Function, Smoothing, Error, Convergence, Constrained optimization problem

### Introduction

The mathematical form of constraint optimization problem involves the introduction of certain terminology which should be known for better understanding of the topic. Let  $x$  be an  $n$ -dimensional vector given as  $x = (x^1, x^2, \dots, x^n) \in R^n$ ,  $S$  be a subset of  $R^n$ . Let  $f_0(x), f_1(x), \dots, f_m(x)$  are functions of  $x$ . The main problem in constrained optimization can be represented as

$$(1) \quad \text{Min } f_0(x)$$

$$\text{s.t. } f_j(x) \leq 0 \quad j = 1, 2, 3, \dots, m$$

The function  $f_0$  and  $f_j: R^n \rightarrow R$  are continuous differentiable functions of second order. The function  $f_0(x)$  is called the objective function. The vector function  $f(x) = f_1(x), f_2(x), \dots, f_m(x)$  defined above is generally referred to as the functional constraints. The set  $S$  is called the basic feasible set. The set  $Q = \{x \in S, f_j(x) \leq 0, j = 1, 2, 3, \dots, m\}$  is called the feasible set of the problem

(1). The set  $Q$  is assumed to be nonempty. The minimization problems can be classified as

1. Constrained Problems:  $Q \subset R^n$

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## Rapid green-synthesis of TiO<sub>2</sub> nanoparticles for therapeutic applications

Shilpy Bhullar,<sup>a</sup> Navdeep Goyal<sup>a</sup> and Shikha Gupta<sup>a,b</sup>

Nanoparticles (NPs) with sizes ranging from 2 nm to 1 μm find various applications in the field of theranostics. Moreover, if eco-friendly methods are opted for the synthesis of biocompatible and less toxic NPs, then that's a huge success. Titanium dioxide nanoparticles (TiO<sub>2</sub> NPs) have been vigorously studied for their use in medical implants, photodynamic therapy, drug delivery, biosensing and as antimicrobial agents. The present study reports the green-synthesis of TiO<sub>2</sub> NPs for the first-time using extracts of black pepper (*Piper nigrum*), coriander (*Coriandrum sativum*) and clove (*Syzygium aromaticum*). All three samples of TiO<sub>2</sub> NPs were synthesized via a modified sol-gel method under similar environmental conditions. Similar treatments were given to the samples. The procedure adopted for the synthesis ensures the use of non-toxic materials, no production of toxic by-products and rapid synthesis of the TiO<sub>2</sub> NPs. The NPs were characterized by X-ray diffraction, high resolution-transmission electron microscopy, energy dispersive spectroscopy, field emission scanning electron microscopy and selected area electron diffraction which confirmed the formation, morphology, crystallinity and size of the TiO<sub>2</sub> NPs. These characterizations displayed the similarity index of all three samples. However, photoluminescence and vibrating sample magnetometer studies highlighted the differences among the three samples. All three samples of NPs obtained had a size range of 5–20 nm. Further, the findings showed that different plant extracts result in TiO<sub>2</sub> NPs with moderately different characteristics. Furthermore, the samples were analysed for their drug-encapsulation efficiency using UV-visible spectrophotometry. Among all three samples, the NPs synthesised using black pepper exhibited the maximum encapsulation efficiency. The study concludes that the plant's bio-profile is responsible for bringing about changes in the traits of the resulting nanoparticles. Thus, the extracts from different plants have the ability to manipulate the properties of the synthesized NPs. These findings can help to understand the role and importance of the plants in synthesizing NPs for biomedical applications. A further detailed study in this field can help researchers to understand the influence of the plant's biochemistry in shaping the NPs.

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### 1 Introduction

Today the world is moving towards adopting eco-friendly measures for sustainable development. Nanoparticles (NPs) are now slowly capturing the global market because of their versatility. But as everything comes with a flaw, these NPs also result in biohazards. During their synthesis, chemicals are used which often lead to many toxic by-products. As a remedy to this bizarre scenario, the green synthesis approach is fascinating to researchers these days. The green synthesis technique involves the maximum use of biomass to retrieve the NPs. However, the term 'green' is not restricted to plants alone. Various fungi-mediated and bacteria-mediated synthesis also come under the green synthesis procedure. Thus, biomass, in general, is being extensively utilised for environment-friendly synthesis techniques. When using plants, the extracts of their roots, leaves, stems, seeds, flowers or fruits, can be used. Organic polymers are the building blocks of the plants and these include starch, chitin, cellulose, hemicellulose, lignin and various resins. Whenever plant extracts are used, the organic polymers and the biomolecules present in them, are responsible for their characteristic behaviour. Cellulose is the most abundant organic polymer and is a polysaccharide present in the primary cell wall of plants and many forms of algae. Lignocellulose biopolymers nourish the cell wall of the plants and they consist of cellulose, hemicellulose and lignin. Lignin constitutes around 30 percent of the lignocellulose biomass and contains a large number of phenylpropanoids. It has the potential to replace petroleum and its depolymerization offers remarkable possibilities for producing high-quality chemicals.<sup>1,2,3</sup> This is a step towards modern day eco-friendly synthesis procedures.

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## FEKETE-SZEGŐ INEQUALITY FOR CERTAIN CLASSES OF CLOSE-TO-CONVEX FUNCTIONS

GAGANDEEP SINGH, GURCHARANJIT SINGH, HARJINDER SINGH

**ABSTRACT.** Close-to-convex functions and quasi-convex functions are of great importance in geometric function theory. In the present investigation, the authors study the subclass  $C_1$  of close-to-convex functions and the subclasses  $C'$  and  $C'_1$  of quasi-convex functions in the open unit disc  $E = \{z : |z| < 1\}$ . The sharp upper bounds of the functional  $|a_3 - \mu a_2^2|$ ,  $\mu$  real, for the functions of the form  $f(z) = z + \sum_{n=2}^{\infty} a_n z^n$  belonging to these classes are provided. This work will pave the way to investigate the upper bound of the Fekete-Szegő functional for some other subclasses of close-to-convex and quasi-convex functions.

### 1. INTRODUCTION

Let  $A$  denote the class of functions of the form

$$f(z) = z + \sum_{n=2}^{\infty} a_n z^n \quad (1)$$

which are analytic in the unit disc  $E = \{z : |z| < 1\}$ . Let  $S$  be the class of functions of the form (1) which are analytic univalent in  $E$ .

We shall concentrate on the coefficient problem for the class  $S$  and certain of its subclasses. In 1916, Bieberbach [3] proved that  $|a_2| \leq 2$  for  $f(z) \in S$  as a corollary to an elementary area theorem. He conjectured that, for each function  $f(z) \in S$ ,  $|a_n| \leq n$ ; equality holds for the Koebe function  $k(z) = z/(1-z)^2$ , which maps the unit disc  $E$  onto the entire complex plane minus the slit along the negative real axis from  $-\frac{1}{4}$  to  $-\infty$ . De Branges [5] solved the Bieberbach conjecture in 1984. The contribution of Löwner [10] in proving that  $|a_3| \leq 3$  for the class  $S$  was huge.

With the known estimates  $|a_2| \leq 2$  and  $|a_3| \leq 3$ , it was natural to seek some relation between  $a_3$  and  $a_2^2$  for the class  $S$ . This thought prompted Fekete and Szegő [6] and they used Löwner's method to prove the following well-known result for the class  $S$ :

1991 *Mathematics Subject Classification.* 30C45, 30C50.

*Key words and phrases.* Univalent functions, starlike functions, convex functions, close to convex functions, bounded functions.

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## COEFFICIENT INEQUALITY FOR A COMBINED SUBCLASS OF VARIOUS CLASSES OF REGULAR FUNCTIONS

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**Abstract.** Here, we take functions of the type  $f(z) = z + \sum_{k=2}^{\infty} a_k z^k$  and solve the Fekete – Szegő inequality for a new class of analytic functions.

**2010 Mathematics Subject Classification:** 30C45, 30C50.

**Keywords:** Fekete – Szegő Inequality, Starlike functions, Bounded analytic functions and concept of subordination.

### 1. Introduction

In this paper we define an inequality called Fekete – Szegő Inequality for a new class of analytic functions. This is an inequality which relates to those coefficients which are related to univalent analytic functions [8],[16]. M. Fekete and G. Szegő proved this inequality in 1933[5]. It originates from Bieberbach conjecture([6], [13], [14], [15]), which was given by Bieberbach [2] in 1916 but finally proved by him [3] in 1985.

Firstly, let us discuss some classes and some basic results :

Let  $A$  be the family of functions  $f$  of the form  $f(z) = z + \sum_{k=2}^{\infty} a_k z^k$ , having conditions of normalisation  $f(0) = 0, f'(0) = 1$ ; analytic in open unit disc  $E = \{z \in C: |z| < 1\}$ .

Let  $S$  be the family of functions  $f$  univalent in the open disk  $\{z \in C: |z| < 1\}$  with conditions

$$f(0) = 0, f'(0) = 1; f(z) = z + \sum_{k=2}^{\infty} a_k z^k.$$

Any function  $f$  belonging to the class  $A$  is said to be a Starlike function if  $f(E)$  is starlike domain with respect to the origin and this class is denoted by  $S^*$  [1]. The essential condition for this class as given by Duren [4], is  $Re \left( \frac{zf'(z)}{f(z)} \right) > 0; z \in E$ , and  $S^*(\phi)$  be the class of functions in  $f \in S$ , for which  $\frac{zf'(z)}{f(z)} < \phi(z)$ , given by Ma and Minda [10].

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## In-vitro pH-responsive release of imatinib from iron-supplement coated anatase TiO<sub>2</sub> nanoparticles

Shilpy Bhullar<sup>1</sup>, Navdeep Goyal<sup>1</sup> & Shikha Gupta<sup>2✉</sup>

Targeted drug delivery is one such precision method of delivering medication inside the human body which can vanquish all the limitations of the conventional chemotherapeutic techniques. In the present study, two types of nanoparticles (NPs) were chosen for the in-vitro pH-responsive release study of the drug, Imatinib, namely anatase Titanium Dioxide nanoparticles (TiO<sub>2</sub> NPs) and iron-capped TiO<sub>2</sub> NPs, designated as Fe@TiO<sub>2</sub> NPs. The novelty of this work lies behind the use of commercially available iron supplement 'Autrini' meant for human consumption, as the material to coat the TiO<sub>2</sub> NPs to synthesize Fe@TiO<sub>2</sub> NPs. The synthesized NPs were analyzed by XRD, HR-TEM, SAED, EDX and VSM. UV-Vis spectroscopy was performed for absorption studies. Fe@TiO<sub>2</sub> NPs showed superparamagnetic behavior and thus they are able to ensure the facile transfer of Imatinib via external magnetic fields. The results obtained from in-vitro drug release studies depicted that both TiO<sub>2</sub> NPs and Fe@TiO<sub>2</sub> NPs showed a controlled pH-sensitive delivery of the loaded Imatinib molecules. Moreover, both types of NPs do not result in the formation of ROS under human physiological conditions. These results can lay the foundation to the development of efficacious targeted drug delivery systems in the healthcare sector.

Today, we are witnessing a global pandemic whose impact has been devastatingly pervading. Not to mention, many new diseases caused by fungi and other microbes are discovered each year. What worsens the situation is our inability to treat life-threatening diseases like cancer which have been known to mankind for quite a long time. Genetic mutations cause many carcinogenic cells to acquire resistance against many drugs thereby convoluting the treatment provided<sup>1</sup>. There is no denying the fact that today we need smarter tools and smarter medicines to provide advanced medical treatments and to combat the deadly diseases. Nanotechnology is the future of mankind. This technology of manipulating the matter at nano scales to obtain remarkably novel materials with unique properties has huge potential in the field of healthcare.

Radiotherapy, surgery and chemotherapy are the major anti-cancer therapies undertaken. But, the non-specific targeting of cancer cells have made these approaches ineffective in a number of patients as they affect the healthy tissues as well. Chemo drugs used in cancer treatment often lack the target-specificity and many times, a combination of chemo drugs is used to ascertain complete treatment. However, not all medicines work in a similar manner and they possess their own side-effects as well. The non-directionality of these drugs result in their action at undesirable sites too. To cope with this, higher doses of drugs are administered which generates major health concerns. Here, nanotechnology can come to the rescue. Nanoparticles (NPs) are the new era tools which can be used to load drugs onto them and ensure targeted drug delivery. This is a method of delivering medications inside the human body by achieving maximum concentration at the target locations and the least concentration around the normal tissues. This confirms the least drug wastage in the other regions of the body and maximum dosage released at the site of action<sup>2</sup>.

The state of the art in medical research involves using the NPs as drug carriers and following different approaches to achieve targeted drug delivery. One of the approaches involves conjugating the drug to a cell-specific ligand or tissue to have active targeted drug delivery, whereas, the other involves encapsulation of NPs or macromolecules with a therapeutic agent which passively reaches the target through Enhanced Permeability and Retention (EPR) effect. Liposomes and other biologically modified NPs are often used for the efficient delivery of lipophilic drugs which dissolve through the outer lipid membrane of the NPs right into the target cells via lipid-lipid exchange<sup>3</sup>. In fact, NPs have been reported to cross the Blood-Brain Barrier (BBB) and thus, they are favorable in treating difficult-to-treat tumors. Most of the tumor cells are recognized by the over-expression of

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**A recipe for optimizing TiO<sub>2</sub> nanoparticles for drug delivery applications**

Shilpy Bhullar<sup>a</sup>, Navdeep Goyal<sup>b</sup>, Shikha Gupta<sup>b,\*</sup>

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TiO<sub>2</sub> nanoparticles

**ABSTRACT**

The size and shape of Titanium Dioxide nanoparticles (TiO<sub>2</sub> NPs) substantially affect their drug encapsulation efficiency, circulation time and agglomeration in order to have effective drug-delivery applications for which the NPs in the size range 20–150 nm and spherical morphology are considered to be the most suitable. The basic idea is to synthesize small-sized rutile titania NPs. Since, rutile phase is associated with bigger size of the NPs, obtaining both small-size as well as rutile TiO<sub>2</sub> NPs is a challenge in the synthesis process. In this report, we are able to optimize the synthesis of spherical rutile titania NPs by adjusting the molarity as 0.3 M, a pH value of 1.0 and calcination temperature of 800 °C. XRD and HR-TEM confirmed the synthesis of 25–28 nm sized TiO<sub>2</sub> NPs. This is the optimum size range as it is expected that the size of the NPs won't increase beyond 150 nm even after drug loading and various surface modifications. Furthermore, it is suggested that the recipe shared in this paper for synthesizing TiO<sub>2</sub> NPs is reproducible.

**1. Introduction**

Titanium Dioxide Nanoparticles (TiO<sub>2</sub> NPs) exhibit great potential for drug-delivery applications. The performance of TiO<sub>2</sub> NPs in innumerable applications largely depends upon the different fabrication strategies followed to synthesize them and the nanoscale morphologies of the resulting NPs. These NPs can be designed with high precision and tunable physico-chemical properties. Their well-established surface chemistries ensure less toxic biological responses. However, they are non-biodegradable and thus, it is essential to concentrate on the procedures to minimize their agglomeration and expedite their clearance when they are used as drug-carriers [1]. Therefore, different factors which manipulate the resulting behavior of the TiO<sub>2</sub> NPs should be carefully investigated. The size of the NPs, type, dose administered, surface charge, surface coating and the mode of administration greatly influence their pharmacokinetics. The toxicity of these NPs is generally low; however, their size and crystal form particularly decide the potential risks which might be involved. Nowadays, the TiO<sub>2</sub> NPs have been extensively studied for their role as delivery agents of chemotherapeutics because chemotherapy is limited by many reasons. The chemo drugs are immensely destructive towards rapidly growing and dividing cells, both cancerous and healthy, in the human body. Sometimes, multidrug resistance mechanisms exhibited by various carcinogenic tissues result in incompetence of chemotherapeutics. Thus, novel targeted drug delivery systems ensure the site specificity of the therapy and also reduce the systemic side-effects. For this reason, TiO<sub>2</sub> NPs are the most sought after NPs for drug delivery applications. These NPs along with the chemo drugs offer a platform for efficient drug delivery. Owing to various release mechanisms such

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# DISASTER MANAGEMENT PLAN

**Department of Higher  
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## Issues and Best Practices in Punjab and India

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Dr. Jaspal Singh et al.

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## Foreword

When we look back and then, forward to the coming times the need is not to enumerate the past or coming disasters but to learn lessons both positive and negative; and use them to mitigate the coming problems and adversities. The small group of intellectuals, those who have participated in the writing of this book have endeavoured to understand and build a knowledge base of the issues and possible solutions that confront us.



The topics discussed like consumer awareness, food insecurity, renewable energy, poverty, nano-solutions and climate change are the most troubling topics in our time. Some writers have suggested solutions, offered advice and hope which is very important contribution to our society. Teachers from Punjab, Maharashtra, Haryana and other states have contributed to the writing of this multidisciplinary book. By sharing these experiences, this book aims to inspire and equip policymakers, entrepreneurs, activists, and citizens alike with practical insights and actionable strategies. It serves as a testament to the immense potential that lies within each one of us to effect positive change and create a world that is environmentally sustainable, socially just, and economically prosperous.

May this book ignite a flame of hope and serve as a guiding light, illuminating the path towards sustainable development, I wish this endeavour success and hope that people will read these suggestions, take them to heart and then put them to practical use.

*Sh. Harjot Singh Bains  
Cabinet Minister  
Higher Education & Languages,  
Govt. of Punjab*

*HST Bains  
Best Wishes  
15/6/23*

## Acknowledgement



We thank our Principal Mrs. Harjeet Gujral for her unstinted support at every step in publishing this book.

Editors

## Preface

The 2030 Agenda for Sustainable Development has set targets for peace, dignity and prosperity for the planet and humankind. To achieve a free, poverty less, healthy environment for all is a challenging prospect at the moment because we all are engaged in a selfish, haphazard and hurried attempt to grow individually. To envisage a collective, inclusive and sustained growth and to conserve the limited resources we have will require that we overcome our differences and work shoulder to shoulder as a humane brotherhood and sisterhood. *Vasudevaya Kutumbhakam* is a beautiful concept but it requires a lot of thought, vision and sacrifices. The college teachers who have contributed to his book have shown a high level of feeling and thought to motivate not only students but all society to live and work together to achieve these goals. The writers have described the situation in Punjab and India and offered intelligent solutions. We must pay attention to what these writers have to say to mould our future generations with wisdom, ferethought and forbearance.

Dr. Reetinder Joshi

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SMHS Government College, Mohali was established in May 1984 with an aim to provide quality education to the students of Mohali Township and its adjoining rural areas. The college, in its attempt to recreate and perpetuate the best of the traditions of which it is a guardian, adopted "Aspire for Truth" as the college motto. The college motto gives a message of truthfulness so as to enrich the moral and social fabric of the societies. The immediate objective of the college is to enable the youth of this area to earn a formal degree required to pursue higher studies or take up a career.

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## LIFESTYLE MANAGEMENT AND GENDER EQUALITY FOR SUSTAINABLE DEVELOPMENT



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## Foreword

The goals for sustainable development highlight the need for promoting healthy lifestyles and gender equality which requires the contribution of every single person who is part of society. The authors who have participated in the writing of this book have touched upon issues of health, housing, cinema, gender equality, knowledge paradigms and the imbalance which sometimes exists without our knowledge in the hidden recesses of our mind.

Sustainable Development and Gender Equality are inextricably linked since ages. Women have suffered disproportionately and so have the third gender. For thousands of years, castrated men have played key roles in various societies, but have been hidden in the background and shadows. The paradigm of two biological sexes and those too are unequal has existed since the beginning. Homosexuality and transvestitism— and other intermediate gender categories are treated as a “discrepancy” and ignored. The *Hijras* of India are not only an irrevocable part of our culture at the time of births and marriages but also citizens of the Nation. These categories are rarely considered when we study art, literature and decide National policies.

The purpose of writing of this book is to address the urgency of the global issue of sustainable development. The teachers who have contributed to this book have felt that gender equality is an urgent need because it impacts all of us. All human beings deserve the same treatment and equality benefits everyone because society becomes a safer place, resources are equally shared and everybody needs to be treated with dignity, respect and fairness.

**Mrs. Harjeet Gujral**

*Principal*

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SAS Nagar (Mohali)

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## Preface

The sustainable development goals are a continuation of the eight Millennium Development Goals (MDGs) which began in the year 2000. The MDGs helped millions of people to combat hunger, poverty and discrimination against women. The global consumption of ozone-depleting substances was brought down and people realized that it was important to plant trees and stop the depletion of forests. According to the UN, many people are living healthier lives now but areas where SDGs have worked negligibly are in the goals of gender equality. Almost no country has achieved, even partially, this goal. Denmark has achieved a score of 90 out of 100 which stands for equality achieved. Average score of all countries is a poor score of 65.7.

Post Covid, the situation has worsened due to shortage in jobs and time spent on unpaid care and domestic work. Women's health is poorly funded and violence and discrimination in education remains worldwide.

Bold efforts are needed to advance gender equality. Financial investment policies and laws are the need of the hour. There has been a marginal increase in women's representation in houses of National Parliaments (26.2% in Jan 2022). But the pace is so slow that it might take another 40 years to achieve equal representation.

All have the right to live with dignity and respect. Each of us, no matter what our gender, has the right to equality. Elimination of harmful practices like violence and

exploitation of women must be ensured if we wish to ensure sustainable development.

The writers who have contributed to the writing of this book have taken special care to outline the pledge "Leave No One Behind" and to ensure that there is fast-track progress for those who are furthest behind, first. Women and girls have played a very important part in nurturing civilization, they deserve to be given their due and be able to live freely without violence.

**Dr. Reetinder Joshi**

31  
*Harjeet Goyal*  
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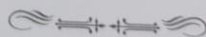
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22<sup>nd</sup> April 2023

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This is to certify that **Mr Pardeep Rattan, Librarian, Government College, Mohali** was an invited member for the Panel Discussion on "Role of Library Associations in Developing Libraries."

He actively participated in the Panel Discussion and presented his views on the role that the Punjab College Library Association was playing in developing libraries and library professionals.

The Panel Discussion was organised during the "Launch & Award Ceremony" of the ASLIP held on 22<sup>nd</sup> April 2023 at M G State Institute of Public Administration, Punjab at Chandigarh.

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## CERTIFICATE OF COMPLETION

THIS CERTIFICATE IS PROUDLY PRESENTED TO

*anureet bhalla*

For successful completion of 7 Days FDP on G-Suite Apps for Effective Online Teaching  
FDP/9LPRO/2020-1177  
25<sup>th</sup> -31<sup>st</sup> July 2020

*Parth Shukla*  
**Parth Shukla**  
Co-Founder, Course Director  
9ledgepro

*Shubhajit Poddar*  
**Shubhajit Poddar**  
Co-Founder  
9ledgepro

**CERTIPORT**  
AUTHORIZED TESTING CENTER

Participating institutes



<https://eguru.9ledgepro.com/verify-certificate>



ਸ਼ਹੀਦ ਮੇਜਰ ਹਰਮਿੰਦਰਪਾਲ ਸਿੰਘ (ਸ਼ੈ.ਚੈੱ.) ਸਰਕਾਰੀ ਕਾਲਜ, ਸਾਹਿਬਜ਼ਾਦਾ ਅਜੀਤ ਸਿੰਘ ਨਗਰ

SHAHEED MAJOR HARMINDERPAL SINGH (Shaurya Chakra) GOVERNMENT COLLEGE, SAHIBZADA AJIT SINGH NAGAR

ਫੇਸ-6, ਸਾਹਿਬਜ਼ਾਦਾ ਅਜੀਤ ਸਿੰਘ ਨਗਰ (ਮੋਹਾਲੀ)-160056

Phone No. 0172-2225164

e-mail ID: [principal.gcmohali@gmail.com](mailto:principal.gcmohali@gmail.com)



ਸ਼ਹੀਦ ਮੇਜਰ ਹਰਮਿੰਦਰਪਾਲ ਸਿੰਘ (ਸੈ.ਚੈ.) ਸਰਕਾਰੀ ਕਾਲਜ, ਸਾਹਿਬਜ਼ਾਦਾ ਅਜੀਤ ਸਿੰਘ ਨਗਰ

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**Swami Ganga Giri Janta Girls College, Raikot**

(Affiliated to Panjab University, Chandigarh)



**Certificate of Participation**

This certificate is awarded to:

**Professor Simar Preet**

of Government College Derabassi SAS Nagar Mohali

has participated in E-Quiz on **"International Day of Yoga" 21<sup>st</sup> June 2020**,  
organized by Department of Physical Education in collaboration with NSS Unit  
of **Swami Ganga Giri Janta Girls College Raikot, Ludhiana (Punjab)**.

Certificate id: BWE2N8-CE000089

He/She has secured 64.70% in the quiz.

Ms. Upma Bhagat (HOD)  
Physical Education & Sports

Mrs. Gurpreet Kaur  
NSS Incharge

Dr. (Mrs.) Rajni Bala  
Principal

ਸ਼ਹੀਦ ਮੇਜਰ ਹਰਮਿੰਦਰਪਾਲ ਸਿੰਘ (ਸ਼ੈ.ਚੈੱ) ਸਰਕਾਰੀ ਕਾਲਜ, ਸਾਹਿਬਜ਼ਾਦਾ ਅਜੀਤ ਸਿੰਘ ਨਗਰ

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ਸ਼ਹੀਦ ਮੇਜਰ ਹਰਮਿੰਦਰਪਾਲ ਸਿੰਘ (ਸੈ.ਚੈੱ.) ਸਰਕਾਰੀ ਕਾਲਜ, ਸਾਹਿਬਜ਼ਾਦਾ ਅਜੀਤ ਸਿੰਘ ਨਗਰ

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Prem Chand Markanda  
S.D. COLLEGE FOR WOMEN, JALANDHAR  
Re - Accredited 'A+' by NAAC  
A NATIONAL WEBINAR ON



YOGA & MEDITATION AS A THERAPY DURING COVID-19 PANDEMIC: IMPACT & FUTURE CHALLENGES

This is to certify that *Prof. Simar Preet*  
Of

Government College Derabassi, SAS Nagar, Mohali

has participated in the National Webinar on

"Yoga & Meditation As A Therapy During Covid-19 Pandemic:  
Impact & Future Challenges"

held on 17<sup>th</sup> June, 2020 organized by Department of Physical Education &  
Sports and IQAC, PCM S.D. College For Women, Jalandhar.

Certificate ID: YMW-305

Mrs. Parrajit Kaur (HOD)  
Physical Education & Sports

Mrs. Sangita Sharma (HOD)  
Economics & Coordinator (IQAC)

Dr. (Mrs.) Kiran Arora  
Principal

CELEBRATING 4TH INTERNATIONAL DAY OF YOGA



ਸ਼ਹੀਦ ਮੇਜਰ ਹਰਮਿੰਦਰਪਾਲ ਸਿੰਘ (ਸੈ.ਚੈਂ.) ਸਰਕਾਰੀ ਕਾਲਜ, ਸਾਹਿਬਜ਼ਾਦਾ ਅਜੀਤ ਸਿੰਘ ਨਗਰ

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You

<https://youtu.be/VHLOtibBPeE>



Invited to talk on Women Empowerment in Zee Punjabi Show in 2021

11:17 AM ✓✓

**ਸ਼ਹੀਦ ਮੇਜਰ ਹਰਮਿੰਦਰਪਾਲ ਸਿੰਘ (ਸ਼ੈ.ਚੈੱ.) ਸਰਕਾਰੀ ਕਾਲਜ, ਸਾਹਿਬਜ਼ਾਦਾ ਅਜੀਤ ਸਿੰਘ ਨਗਰ**

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e-mail ID: [principal.gcmohali@gmail.com](mailto:principal.gcmohali@gmail.com)

**National Workshop**  
(Faculty Development Programme)  
(Through Online Mode)  
On

**DEVELOPMENT OF RESEARCH TOOLS IN PHYSICAL EDUCATION**

Sr. No. 38 **June 10-15, 2020**

Organized by  
Centre for Academic Leadership and Education Management (CALEM),  
Panjab University, Chandigarh  
under the Aegis of PMMMNMTT, MHRD, Govt. of India in collaboration with  
Department of Physical Education, Panjab University, Chandigarh

**CERTIFICATE**

This is to certify that Prof./Dr./Mr./Ms. simar preet, Assistant Professor, Government College Derabassi, SAS Nagar, Mohali, 142201 has successfully completed FDP on "Development of Research Tools in Physical Education".

  
Prof. Jinder Grewal  
Coordinator, CALEM  
Dean, Faculty of Education,  
Panjab University, Chandigarh.

  
Prof. Gurmeet Singh  
Programme Coordinator  
Chairperson, Department of Physical Education,  
Panjab University, Chandigarh.



**G.H.G. KHALSA COLLEGE GURUSAR SADHAR, LUDHIANA**

Accredited by NAAC with A Grade



This is to certify that

**SIMAR PREET**

Of

**GOVERNMENTAL COLLEGE DERABASSI, SAS NAGAR,**

**MOHALI**

has actively participated in online quiz on the occasion of  
held on 21<sup>st</sup> June, 2020 organized by Department of Physical Education & Sports,  
**G.H. G. Khalsa College Gurusar Sadhar, Ludhiana.**

Simple Living and High Thinking

E- Certificate ID: GYZ-0160

  
Dr. Baljinder Singh  
(Organizing Secretary)

  
Prof. Tejinder Singh  
HOD (Course)

  
Prof. Anwar Singh Bhatia  
Principal (Patron)

# ਸ਼ਹੀਦ ਮੇਜਰ ਹਰਮਿੰਦਰਪਾਲ ਸਿੰਘ (ਸ਼ੈ.ਚੌ.) ਸਰਕਾਰੀ ਕਾਲਜ, ਸਾਹਿਬਜ਼ਾਦਾ ਅਜੀਤ ਸਿੰਘ ਨਗਰ

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Department of  
Management  
Studies

# CERTIFICATE

OF PARTICIPATION

proudly presented to :

## Ms Harpreet Kaur

Assistant Professor in Commerce  
SMHS Government College  
SAS Nagar - Punjab

has participated in the **National Level Online Workshop on  
Application of Sampling Techniques in Social Science  
Research** held on **17th June 2023, Saturday.**

Prof T P Saravanan  
Programme Coordinator



Dr P Vidhya Priya  
Head Dept. of Mgmt. Studies



Kongu Engineering College

(An Autonomous Institution)

Perundurai - Tamilnadu - India









# INDIAN INSTITUTE OF MANAGEMENT AND COMMERCE

(UG & PG COLLEGE)

(Sponsored by VASAVI FOUNDATION) (Affiliated to OSMANIA UNIVERSITY)

INTERNAL QUALITY ASSURANCE CELL (IQAC)



Department of Library and Information Sci.

## CERTIFICATE OF PARTICIPATION

This is to certify that **PROF HARPREET KAUR, LECTURER** of **S.M.H.S. GOVERNMENT COLLEGE MOHALI** has participated in Two Day National Online Faculty Development Programme on "**Plagiarism in Academic Research & Author Identifiers**" on 11th and 12th April 2022.

**R. Raghavendra Rao,**  
Convenor

**Department of Library  
Sciences**

**K. Raghuvver,**  
Principal



## CERTIFICATE OF COMPLETION

THIS CERTIFICATE IS PROUDLY PRESENTED TO

*Harpreet kaur*

For successful completion of 7 Days  
FDP on G-Suite Apps for Effective  
Online Teaching

FDP/9LPRO/2020-1387

25<sup>th</sup> -31<sup>st</sup> July 2020

**Parth Shukla**  
Co-Founder, Course Director  
9ledgepro

**Shubhajit Poddar**  
Co-Founder  
9ledgepro



Participating institutes



<https://eguru.9ledgepro.com/verify-certificate>

# Entrepreneurship Development Initiatives

Start-up Challenge 17-01-2023



Start-up Challenge 17-01-2023

# ਸ਼ਹੀਦ ਮੇਜਰ ਹਰਮਿੰਦਰਪਾਲ ਸਿੰਘ (ਸ਼ੈ.ਚੱ.) ਸਰਕਾਰੀ ਕਾਲਜ, ਸਾਹਿਬਜ਼ਾਦਾ ਅਜੀਤ ਸਿੰਘ ਨਗਰ

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Phone No. 0172-2225164

e-mail ID: [principal.gcmohali@gmail.com](mailto:principal.gcmohali@gmail.com)

What an idea! Startup challenge organized at our college by district administration  
(12-04-2023)



**‘ਵਟ ਐਨ ਆਈਡੀਆ’ ਚੈਲਿੰਜ ਵਿੱਚ ਸਰਕਾਰੀ ਕਾਲਜ ਫੇਜ਼ 6 ਦੇ ਵਿਦਿਆਰਥੀਆਂ ਨੇ ਤੀਸਰਾ ਸਥਾਨ ਹਾਸਲ ਕੀਤਾ**



ਐਸ ਏ ਐਸ ਨਗਰ, 12 ਅਪ੍ਰੈਲ (ਸ.ਬ.) ਜ਼ਿਲ੍ਹਾ ਪ੍ਰਸ਼ਾਸਨ, ਐਸ ਏ ਐਸ ਨਗਰ ਦੇ ਸਹਿਯੋਗ ਨਾਲ ਜ਼ਿਲ੍ਹਾ ਬਿਊਰੋ ਆਫ ਰੋਜ਼ਗਾਰ ਉਤਪਤੀ, ਹੁਨਰ ਵਿਕਾਸ ਅਤੇ ਸਿਖਲਾਈ, ਐਸ ਏ ਐਸ ਨਗਰ ਵਲੋਂ ਕਰਵਾਏ ਗਏ ਵਟ ਐਨ ਆਈਡੀਆ ਸਟਾਰਟਅੱਪ ਚੈਲਿੰਜ ਦੇ ਫਾਈਨਲ ਪ੍ਰਕਾਸ਼ਨ ਵਿੱਚ ਸ਼ਹੀਦ ਮੇਜਰ ਹਰਮਿੰਦਰਪਾਲ ਸਿੰਘ ਸਰਕਾਰੀ ਕਾਲਜ ਸਾਹਿਬਜ਼ਾਦਾ

ਅਜੀਤ ਸਿੰਘ ਨਗਰ ਦੇ ਵਿਦਿਆਰਥੀ ਜਸਪ੍ਰੀਤ ਕੌਰ ਐਮ ਐਸ. ਸੀ. ਕਮਿਸਟਰੀ ਨੇ ਪਹਿਲੀ ਦਰਜੇ ਵਿੱਚ 472 ਡਾਗੀਦਾਰਾਂ ਵਿੱਚੋਂ ਤੀਸਰਾ ਸਥਾਨ ਹਾਸਲ ਕਰਕੇ 20,000/- ਰੁਪਏ ਦਾ ਨਕਦ ਇਨਾਮ ਪ੍ਰਾਪਤ ਕੀਤਾ।

ਇਸ ਸੰਬੰਧੀ ਜਾਣਕਾਰੀ ਇੱਥੇ ਕਾਲਜ ਦੇ ਬੁਲਾਰੇ ਨੂੰ ਦੱਸਿਆ ਕਿ ਇਸ ਤੋਂ ਇਲਾਵਾ ਨੂੰ ਰੋਹਿਤ ਅਤੇ ਅਨੀਕੋਤ ਬੀਐਸ ਸੀ ਬਾਇਓ ਟੈਕਨਾਲੋਜੀ ਨੇ 10,000/- ਰੁਪਏ ਦਾ ਨਕਦ ਇਨਾਮ ਪ੍ਰਾਪਤ ਕੀਤਾ। ਉਹਨਾਂ ਦੱਸਿਆ ਕਿ ਇਸ ਪ੍ਰੋਗਰਾਮ ਦਾ ਆਯੋਜਨ ਐਮਟੀ ਯੂਨੀਵਰਸਿਟੀ, ਐਸ ਏ ਐਸ ਨਗਰ ਵਿਖੇ ਕੀਤਾ ਗਿਆ ਸੀ।



## EDUCATIONAL TOURS

Students visited Rail Coach Factory at Kapurthala to study Placements and Job opportunities

18<sup>th</sup> march 2023



Students visited Rail Coach Factory at Kapurthala to study Placements and Job opportunities

18<sup>th</sup> march 2023

# ਸ਼ਹੀਦ ਮੇਜਰ ਹਰਮਿੰਦਰਪਾਲ ਸਿੰਘ (ਸ਼ੈ.ਚੱ.) ਸਰਕਾਰੀ ਕਾਲਜ, ਸਾਹਿਬਜ਼ਾਦਾ ਅਜੀਤ ਸਿੰਘ ਨਗਰ

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Phone No. 0172-2225164

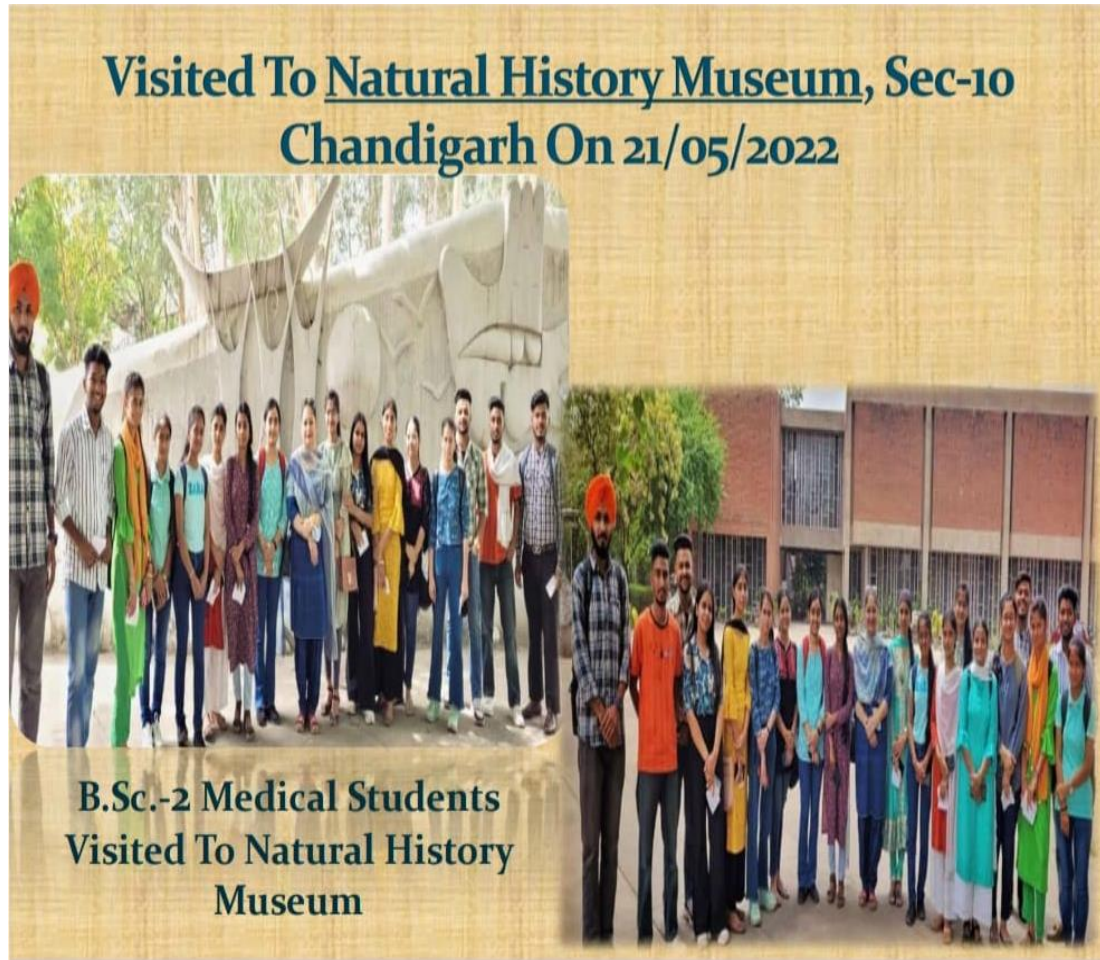
e-mail ID: [principal.gcmohali@gmail.com](mailto:principal.gcmohali@gmail.com)

## Visit to natural History Museum Sector 10 , Chandigarh



## Visit to natural History Museum Sector 10 , Chandigarh

Spoken English and Phonetics 03 may 2023



**ਸ਼ਹੀਦ ਮੇਜਰ ਹਰਮਿੰਦਰਪਾਲ ਸਿੰਘ (ਸ਼ੈ.ਚੱ.) ਸਰਕਾਰੀ ਕਾਲਜ, ਸਾਹਿਬਜ਼ਾਦਾ ਅਜੀਤ ਸਿੰਘ ਨਗਰ**

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History Department visited Natural History Museum Sector 10 , chandigarh on 18<sup>th</sup> may 2022



### Students Participation in Various Competitions



Spoken English and Phonetics 03 may 2023

# ਸ਼ਹੀਦ ਮੇਜਰ ਹਰਮਿੰਦਰਪਾਲ ਸਿੰਘ (ਸੈ. ਚੈੱ) ਸਰਕਾਰੀ ਕਾਲਜ, ਸਾਹਿਬਜ਼ਾਦਾ ਅਜੀਤ ਸਿੰਘ ਨਗਰ

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State-Level Geography Quiz 28 march 2023

ਸ਼ਹੀਦ ਮੇਜਰ ਹਰਮਿੰਦਰਪਾਲ ਸਿੰਘ (ਸ਼ੈ.ਚੌ.) ਸਰਕਾਰੀ ਕਾਲਜ, ਸਾਹਿਬਜ਼ਾਦਾ ਅਜੀਤ ਸਿੰਘ ਨਗਰ

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**B.Sc.-3 MEDICAL STUDENTS PARTICIPATED  
IN VARIOUS EVENTS DURING SCI-FEST 2022  
ORGANIZED AT THAPAR INSTITUTE OF  
ENGINEERING & TECHNOLOGY, PATIALA ON  
07/06/2022**



**Students Won Prizes In Various Quiz Competition  
& Poster Making Competition**

# ਸ਼ਹੀਦ ਮੇਜਰ ਹਰਮਿੰਦਰਪਾਲ ਸਿੰਘ (ਸ਼ੈ.ਚੱ.) ਸਰਕਾਰੀ ਕਾਲਜ, ਸਾਹਿਬਜ਼ਾਦਾ ਅਜੀਤ ਸਿੰਘ ਨਗਰ

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Quiz competition on National Science Day celebrated on 09-03-2023

# ਸ਼ਹੀਦ ਮੇਜਰ ਹਰਮਿੰਦਰਪਾਲ ਸਿੰਘ (ਸ਼ੈ.ਚੱ.) ਸਰਕਾਰੀ ਕਾਲਜ, ਸਾਹਿਬਜ਼ਾਦਾ ਅਜੀਤ ਸਿੰਘ ਨਗਰ

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## Presentations by B.Sc. Medical students in National Science seminar held at PGGGC 11

**Paper Poster Presentation by B.Sc. Medical Students in NATIONAL SCIENCE SEMINAR held at PGGGC 11 ON 22-3-23**  
**Prof. DR. MANDEEP KAUR(BOTANY DEPTT.) AND Prof. SARABJEET KAUR(ZOOLOGY DEPTT.) Also attended the seminar**



- AKSHAY URJA DIWAS celebrated at PGGGC sector 11 Chandigarh on 22-08-22  
BSC. 3<sup>rd</sup> Year student Satnam Singh won 1<sup>st</sup> Prize in Poster Making



# ਸ਼ਹੀਦ ਮੇਜਰ ਹਰਮਿੰਦਰਪਾਲ ਸਿੰਘ (ਸ਼ੈ.ਚੱ.) ਸਰਕਾਰੀ ਕਾਲਜ, ਸਾਹਿਬਜ਼ਾਦਾ ਅਜੀਤ ਸਿੰਘ ਨਗਰ

SHAHEED MAJOR HARMINDERPAL SINGH (Shaurya Chakra) GOVERNMENT COLLEGE, SAHIBZADA AJIT SINGH NAGAR

ਫੇਸ-6, ਸਾਹਿਬਜ਼ਾਦਾ ਅਜੀਤ ਸਿੰਘ ਨਗਰ (ਮੋਹਾਲੀ)-160056

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e-mail ID: [principal.gcmohali@gmail.com](mailto:principal.gcmohali@gmail.com)



# ਸ਼ਹੀਦ ਮੇਜਰ ਹਰਮਿੰਦਰਪਾਲ ਸਿੰਘ (ਸ਼ੈ.ਚੱ.) ਸਰਕਾਰੀ ਕਾਲਜ, ਸਾਹਿਬਜ਼ਾਦਾ ਅਜੀਤ ਸਿੰਘ ਨਗਰ

SHAHEED MAJOR HARMINDERPAL SINGH (Shaurya Chakra) GOVERNMENT COLLEGE, SAHIBZADA AJIT SINGH NAGAR

ਫੇਸ-6, ਸਾਹਿਬਜ਼ਾਦਾ ਅਜੀਤ ਸਿੰਘ ਨਗਰ (ਮੋਹਾਲੀ)-160056

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## Workshops and Seminars



Workshop on Research Methodology on 10-05-23

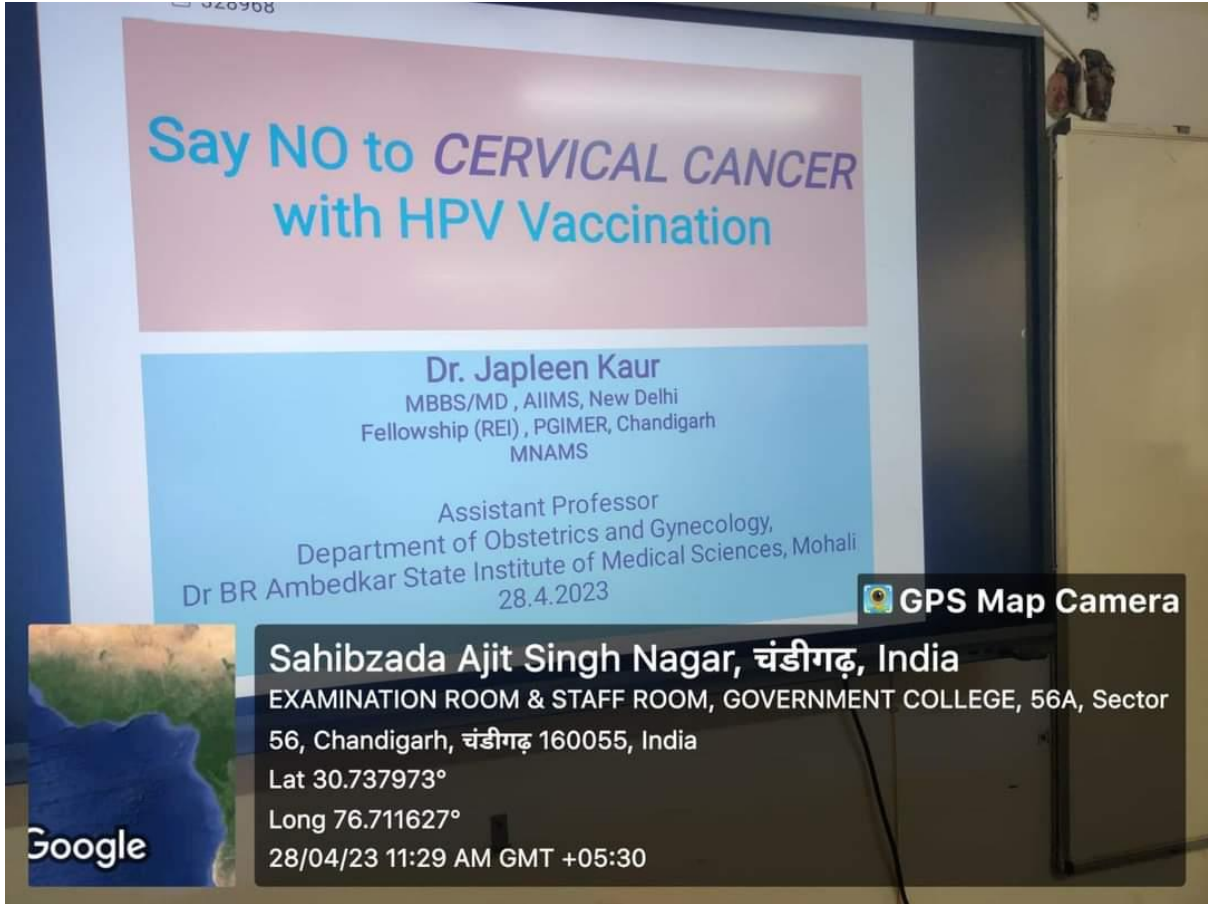
**ਸ਼ਹੀਦ ਮੇਜਰ ਹਰਮਿੰਦਰਪਾਲ ਸਿੰਘ (ਸ਼ੈ.ਚੱ.) ਸਰਕਾਰੀ ਕਾਲਜ, ਸਾਹਿਬਜ਼ਾਦਾ ਅਜੀਤ ਸਿੰਘ ਨਗਰ**

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Workshop conducted in association with BIS 11-05-2023

# ਸ਼ਹੀਦ ਮੇਜਰ ਹਰਮਿੰਦਰਪਾਲ ਸਿੰਘ (ਸ਼ੈ.ਚੈੱ) ਸਰਕਾਰੀ ਕਾਲਜ, ਸਾਹਿਬਜ਼ਾਦਾ ਅਜੀਤ ਸਿੰਘ ਨਗਰ

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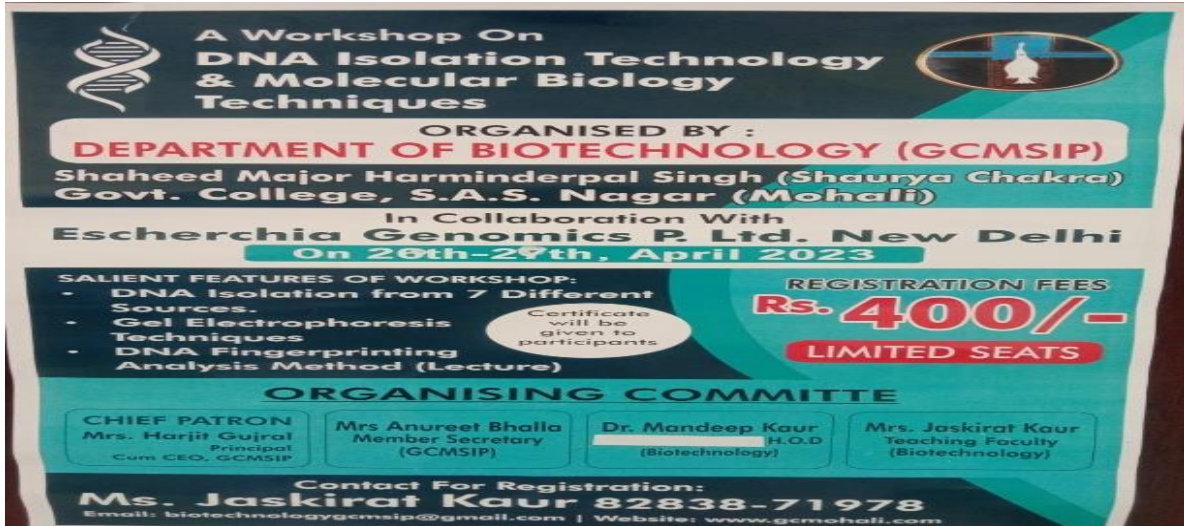
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## A workshop on DNA isolation and molecular biology techniques

26-04-2023 to 27-04-2023



**A Workshop On  
DNA Isolation Technology  
& Molecular Biology  
Techniques**

**ORGANISED BY :**  
**DEPARTMENT OF BIOTECHNOLOGY (GCMSIP)**  
Shaheed Major Harminderpal Singh (Shaurya Chakra)  
Govt. College, S.A.S. Nagar (Mohali)

In Collaboration With  
**Escherichia Genomics P. Ltd. New Delhi**  
On 26<sup>th</sup>-27<sup>th</sup>, April 2023

**SALIENT FEATURES OF WORKSHOP:**  
- DNA Isolation from 7 Different Sources  
- Gel Electrophoresis Techniques  
- DNA Fingerprinting Analysis Method (Lecture)

Certificate will be given to participants

**REGISTRATION FEES**  
**Rs. 400/-**  
**LIMITED SEATS**

**ORGANISING COMMITTEE**

<b>CHIEF PATRON</b> Mrs. Harjit Gajral Principal Cum CEO, GCMSIP	<b>Mrs Anureet Bhalla</b> Member Secretary (GCMSIP)	<b>Dr. Mandeep Kaur</b> H.O.D (Biotechnology)	<b>Mrs. Jaskirat Kaur</b> Teaching Faculty (Biotechnology)
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Contact For Registration:  
**Ms. Jaskirat Kaur 82838-71978**  
Email: [biotechnologygcmahali@gmail.com](mailto:biotechnologygcmahali@gmail.com) | Website: [www.gcmahali.com](http://www.gcmahali.com)



Experts Giving training to the students on DNA isolation and molecular biology techniques

# ਸ਼ਹੀਦ ਮੇਜਰ ਹਰਮਿੰਦਰਪਾਲ ਸਿੰਘ (ਸ਼ੈ.ਚੱ.) ਸਰਕਾਰੀ ਕਾਲਜ, ਸਾਹਿਬਜ਼ਾਦਾ ਅਜੀਤ ਸਿੰਘ ਨਗਰ

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**Participants awarded certificates on the completion of workshop on DNA isolation and molecular biology techniques.**

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**S.M.H.S GOVERNMENT COLLEGE  
MOHALI**

**Mission life (life style for Environment)**

**WORLD ENVIRONMENT DAY  
5<sup>th</sup> JUNE 2023**

**THEME: Solutions to Plastic Pollution  
Under the Campaign  
# Beat Plastic Pollution**

**Talk By: Mr. Amrish Thakur  
Assistant Prof. Dept. of Chemistry  
Time : 11.00 A.M**

**Organized by: Science Club  
(S.M.H.S Govt. College Mohali)**

**Principal: Mrs. Harjeet Gujral**

**PLASTIC RESIN IDENTIFICATION CODES**  
Quick Reference Guide

Code	Material	Color	Notes
1	PE (High Density)	Blue	Single use plastic
2	HDPE	Black	Single use plastic
3	PVC	Red	Single use plastic
4	LDPE	White	Single use plastic
5	PP	Green	Single use plastic
6	PS	Yellow	Single use plastic
7	Other	Purple	Single use plastic
8	PC	Clear	Single use plastic
9	Other	White	Single use plastic

**GPS Map Camera**

**Sahibzada Ajit Singh Nagar, ਚੰਡੀਗੜ੍ਹ, India**  
EXAMINATION ROOM & STAFF ROOM, GOVERNMENT  
COLLEGE, 56A, Sector 56, Chandigarh, ਚੰਡੀਗੜ੍ਹ 160055, India  
Lat 30.738089°  
Long 76.711712°  
05/06/23 12:00 PM GMT +05:30

# ਸ਼ਹੀਦ ਮੇਜਰ ਹਰਮਿੰਦਰਪਾਲ ਸਿੰਘ (ਸ਼ੈ.ਚੱ.) ਸਰਕਾਰੀ ਕਾਲਜ, ਸਾਹਿਬਜ਼ਾਦਾ ਅਜੀਤ ਸਿੰਘ ਨਗਰ

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Workshop on Best out of waste by Home Science department during session 2018-19

# ਸ਼ਹੀਦ ਮੇਜਰ ਹਰਮਿੰਦਰਪਾਲ ਸਿੰਘ (ਸ਼ੈ.ਚੱ.) ਸਰਕਾਰੀ ਕਾਲਜ, ਸਾਹਿਬਜ਼ਾਦਾ ਅਜੀਤ ਸਿੰਘ ਨਗਰ

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## ਆਹਾਰ ਕ੍ਰਾਂਤੀ ਵਿਸ਼ੇ ਤੇ ਲੈਕਚਰ ਦਾ ਆਯੋਜਨ ਕੀਤਾ



ਐਸਏ ਐਸ ਨਗਰ, 21 ਜਨਵਰੀ (ਸ.ਬ.) ਸ਼ਹੀਦ ਮੇਜਰ ਹਰਮਿੰਦਰਪਾਲ ਸਿੰਘ ਸਰਕਾਰੀ ਕਾਲਜ, ਐਸ.ਏ. ਐਸ ਨਗਰ ਵਿਖੇ ਰੋਜ਼ਪਿਟੈਲਟੀ ਐਂਡ ਟੂਰਿਜ਼ਮ ਰੁਸਾਇਟੀ ਵਲੋਂ ਨਿਵੇਦਿਤਾ ਟਰਸਟ ਦੀ ਮਦਦ ਨਾਲ ਕਾਰੋਜ ਪ੍ਰੋਸ਼ੀਪਟ ਸ਼੍ਰੀਮਤੀ ਹਰਜੀਤ ਕੁਮਾਰ ਦੀ ਅਠਵਾਈ ਵਿੱਚ ਆਹਾਰ ਕ੍ਰਾਂਤੀ ਵਿਸ਼ੇ ਤੇ ਇੱਕ ਲੈਕਚਰ ਦਾ ਆਯੋਜਨ ਕੀਤਾ ਗਿਆ।

ਇਸ ਮੌਕੇ ਨਿਵੇਦਿਤਾ ਟਰਸਟ ਦੇ

ਪ੍ਰਧਾਨ ਸ਼੍ਰੀਮਤੀ ਮੀਨਾਕਸੀ ਅਗਨੀਹੋਤਰੀ ਨੇ ਆਹਾਰ ਕ੍ਰਾਂਤੀ ਨੂੰ ਠੀਕੇ ਸਾਫ਼ੀਆਂ ਖਾਣ ਦੀਆਂ ਆਦਤਾਂ ਨੂੰ ਬਦਲਣ ਸਬੰਧੀ ਜਾਗਰੂਕ ਕੀਤਾ। ਉਹਨਾਂ ਨੇ ਮੋਟੇ ਅਨਾਜਾਂ (ਕੰਧਰ, ਕੰਗਣੀ, ਖਾਜ਼ਾਹ, ਜਵਾਰ ਆਦਿ) ਨੂੰ ਆਪਣੀ ਖੁਰਾਕ ਦਾ ਹਿੱਸਾ ਬਣਾਉਣ ਦੀ ਪ੍ਰੇਰਿਤ ਕੀਤਾ।

ਉਹਨਾਂ ਦੱਸਿਆ ਕਿ ਮੋਟੇ ਅਨਾਜਾਂ ਨੂੰ ਆਪਣੇ ਭੋਜਨ ਦਾ ਹਿੱਸਾ ਬਣਾਕੇ ਅਸੀਂ ਬਹੁਤ ਸਾਰੀਆਂ

ਬਿਮਾਰੀਆਂ ਤੋਂ ਬਚ ਸਕਦੇ ਹਾਂ ਅਤੇ ਜੀਵਨ ਨੂੰ ਹੋਰ ਤੰਦਰੁਸਤ ਬਣਾ ਸਕਦੇ ਹਾਂ।

ਇਸ ਲੈਕਚਰ ਵਿੱਚ ਕਾਲਜ ਦੇ ਲਗਭਗ ਸਾਰੇ ਸਟਾਫ ਨੇ ਭਾਗ ਲਿਆ। ਰੋਜ਼ਪਿਟੈਲਟੀ ਐਂਡ ਟੂਰਿਜ਼ਮ ਰੁਸਾਇਟੀ ਦੇ ਮੈਂਬਰ ਸਕੱਤਰ ਪ੍ਰੋ. ਰਜਮੀ ਪ੍ਰਭਾਕਰ ਅਤੇ ਵਿੱਤ ਸਕੱਤਰ ਪ੍ਰੋ. ਘਟਸਮ ਸਿੰਘ ਕੁੱਲਰ ਵਲੋਂ ਆਏ ਮਹਿਮਾਨਾਂ ਦਾ ਧੰਨਵਾਦ ਕੀਤਾ ਗਿਆ।

A lecture was organized on 20/01/2023 on the idea of Aahar Kranti, with the objective of promoting and inculcating use of Millets for achieving a healthy lifestyle

# ਸ਼ਹੀਦ ਮੇਜਰ ਹਰਮਿੰਦਰਪਾਲ ਸਿੰਘ (ਸ਼ੈ.ਚੈੱ) ਸਰਕਾਰੀ ਕਾਲਜ, ਸਾਹਿਬਜ਼ਾਦਾ ਅਜੀਤ ਸਿੰਘ ਨਗਰ

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Career Counselling workshop on 24-03-2023

**ਸ਼ਹੀਦ ਮੇਜਰ ਹਰਮਿੰਦਰਪਾਲ ਸਿੰਘ (ਸ਼ੈ.ਚੈੱ) ਸਰਕਾਰੀ ਕਾਲਜ, ਸਾਹਿਬਜ਼ਾਦਾ ਅਜੀਤ ਸਿੰਘ ਨਗਰ**

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Art and Crafts workshop organised by Dept of Home Science during session 2018-19



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Workshop on Molecular Biology conducted by Dept. of Biotechnology on 08-11-2019

ਸ਼ਹੀਦ ਮੇਜਰ ਹਰਮਿੰਦਰਪਾਲ ਸਿੰਘ (ਸ਼ੈ.ਚੱ.) ਸਰਕਾਰੀ ਕਾਲਜ, ਸਾਹਿਬਜ਼ਾਦਾ ਅਜੀਤ ਸਿੰਘ ਨਗਰ

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workshop by visiting faculty in Hospitality Dept. session 2018-19

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lecture on effective communication by English department on 31-03-2023

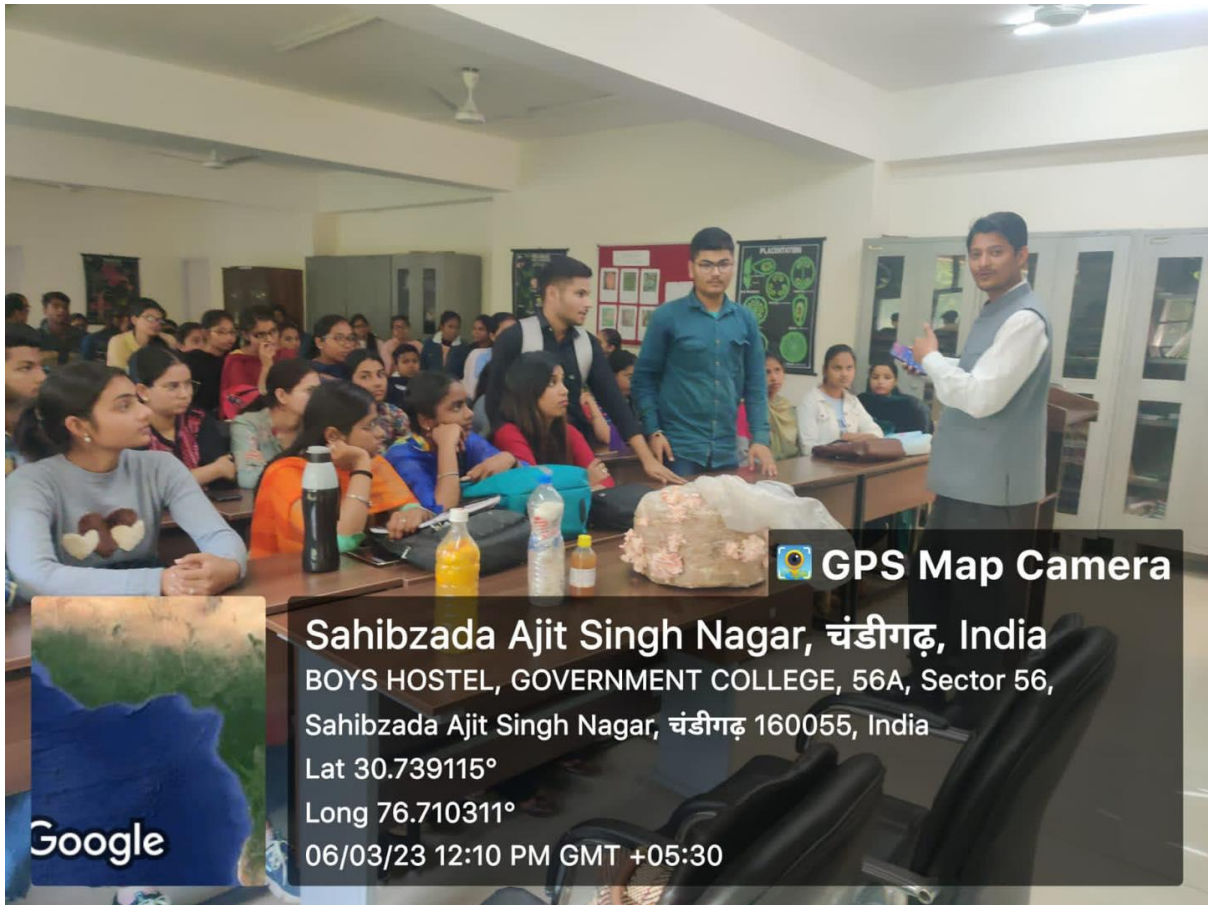
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Workshop on Mushroom Cultivation by Visiting Faculty on dated 06-03-23

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Seminar on Tips and Tricks for Interview Situations

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Workshop On Floral arrangement & Design 03-11-23

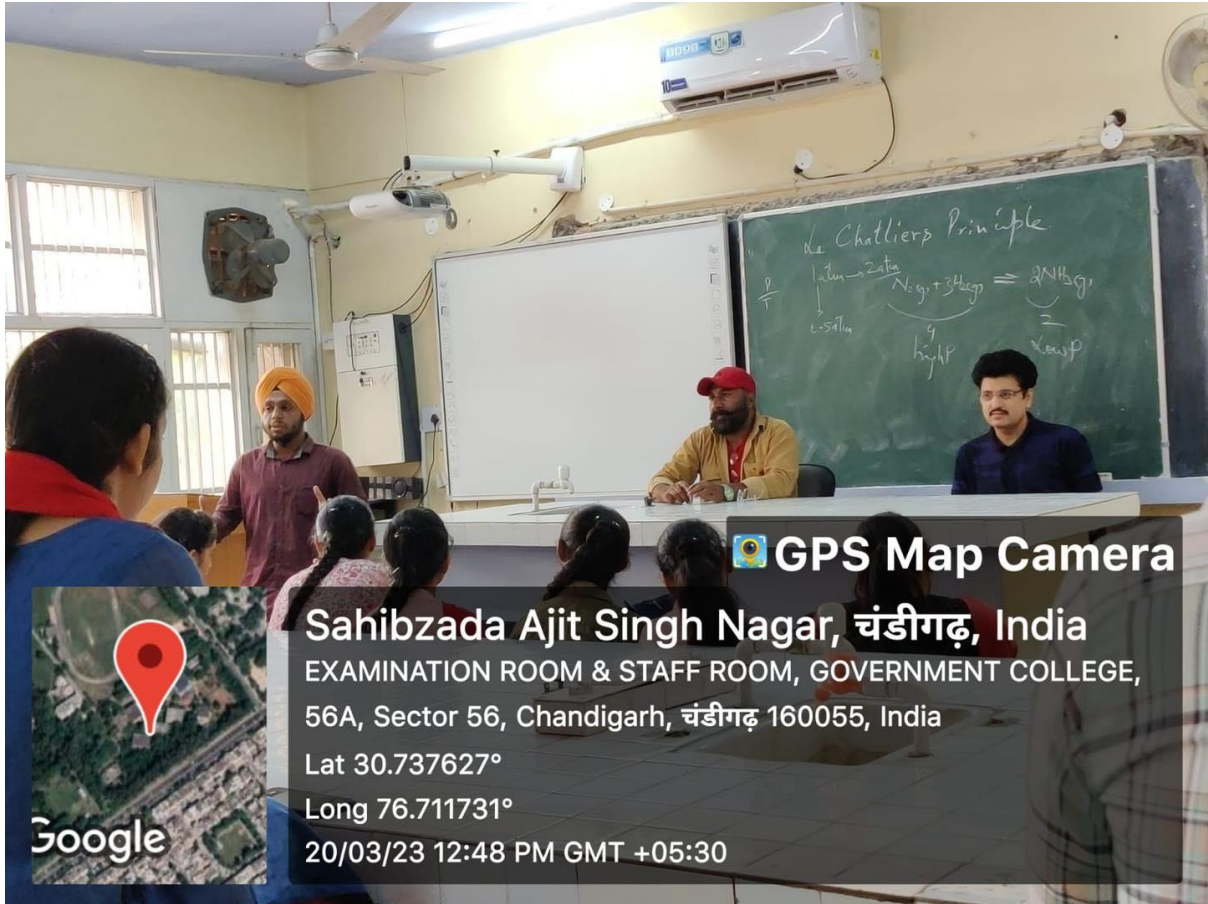
# ਸ਼ਹੀਦ ਮੇਜਰ ਹਰਮਿੰਦਰਪਾਲ ਸਿੰਘ (ਸ਼ੈ.ਚ.) ਸਰਕਾਰੀ ਕਾਲਜ, ਸਾਹਿਬਜ਼ਾਦਾ ਅਜੀਤ ਸਿੰਘ ਨਗਰ

SHAHEED MAJOR HARMINDERPAL SINGH (Shaurya Chakra) GOVERNMENT COLLEGE, SAHIBZADA AJIT SINGH NAGAR

ਫੇਸ-6, ਸਾਹਿਬਜ਼ਾਦਾ ਅਜੀਤ ਸਿੰਘ ਨਗਰ (ਮੋਹਾਲੀ)-160056

Phone No. 0172-2225164

e-mail ID: [principal.gcmohali@gmail.com](mailto:principal.gcmohali@gmail.com)



Workshop on Acting skills by Theatre club of the college

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Techfest 2019 Organised by Computer Department

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Prize Distribution to winners of various competitions on National Science Day session 2018-19

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**ACTIVITIES UNDER GREEN PUNJAB MISSION ON 20/08/2021**



**Tree Plantation**



**Poster Making & Slogan Writing Competition**



**Awareness Talk By Jaqjeet Singh B.Sc. -3 Medical On Importance Of Tree Plantation**