1.0 INTRODUCTION

Man is considered to be the most superior creation of God on earth, because he is blessed with the qualities of head and heart. The problems with which our country is faced today are poverty, population, pollution, illiteracy and ignorance. The eradication of illiteracy from the country can change the destiny of the nation, because the investment on human beings to educate them makes them the human capital. Investment on human beings is the highest investment, which can bring rich dividends after a long time. We invest today and get the benefits in long term.

Moreover, UNESCO has declared Education as a human right, which means, Education is the right of the people living in a particular country and it is the duty of the Government to make provisions for imparting education to the people living in that country. In order to achieve this aim of Education as a human right, the education has been made free, compulsory and universal: at the primary level as a first step in this direction. Moreover the primary education has also been made as a fundamental right. At present, the education comes under the directive principles, but after a bill being passed in the Parliament, the primary education will became the fundamental right, where it is the right of the children to receive education between the age 6-14 years at the primary level and the Government has to make the provisions for the same. Formal system of education has not been able to provide education to all, who come within the age group of 6-14 years, because of the explosion of population. Therefore, we have to think of alternatives to provide education to all the children, who came within this age group. The alternative to formal education appears to be non-formal mode of education, where we can impart education to the children of this age group from a distance. That is why distance education is gaining a rapid momentum. So we can say that distance education, non-formal education, correspondence education all have emerged as alternatives to the formal system of education, which can help in achieving the aims of education as a fundamental right
and also education for all, who come within this age group. Aristotle once said, the
difference between educated and illiterate persons is the same as we find between the
living and non-living. Aristotle here compared illiterate persons as non-living beings
because they do not contribute anything useful for the progress of the society.

Valuable results of scientific pursuits constantly surround us. These results,
which include understandings of the harmful effects of smoking, the ability to use
antibiotics to cure some diseases, and the ability to launch and use satellites for world-
wide communications, are more than simply accumulations of facts about the world.
Instead, these ideas and concepts have great explanatory and, often, predictive power.
By having a scientific understanding of the world in which we live, we have some
power to predict and control our environment.

The imperatives of education were considered; specifically as 3 Rs, which
means the knowledge of reading, writing and Arithmetic, but in the present age, the
same has been changed from 3R to 4H, which means coordination or Head, Heart,
Hand and Health. These four imperatives are necessary for attaining any sort of
knowledge in any discipline.

A scientifically literate person has acquired the ability to hold a scientific
worldview, engage in scientific inquiry, and appreciate the scientific enterprise. A
scientific worldview involves perceiving a largely understandable world, seeing
scientific knowledge as durable but subject to change, and knowing when scientific
inquiry is appropriate – and knowing that science does not claim to have all the
answers.

Scientific inquiry is a process of making sense of the world and developing
explanations of the natural world often through the use of models. It is a scaffolded
endeavour, integrating scientific content and disciplinary procedures; as such, inquiry
will look different in a biology class, or an earth sciences class, or in a physics class
because scientific methodology itself is different in those disciplines. The
methodologies reflect the needs and structure of the discipline; someone who is
scientifically literate should be able to understand and identify the roles of differing
methods. Residents in these times run the risk of being powerless if they fail to
understand science as a complex social activity, run by humans. Scientists are not isolated, they exhibit the same biases and social tendencies as other humans.

“If the goal of ‘understanding for all’ is to be achieved, then the science education community must recognize that understanding in science develops through practice and that we must design classrooms where realistic practice can happen.” (Cartier, et al. 11)

Knowledge plays a very dominant role in achieving the aims of Education. “The comparative study of the achievement in science of the students in Government and private schools in relation to their Intelligence, Academic Anxiety, and Reading Interest are of great significance for the educationists, planners and administrators.” Therefore, the researcher has thought to establish the relationship between Government and private Schools in relation to Academic Anxiety, Intelligence and Reading Interest of the students, which appear to be yet an unexplored territory in the area of research. The study establishes the relationship between the achievement in science and intelligence, adjustment and interest. This fact is yet to be established by, the researcher. Moreover, the knowledge of science is dependent or independent in relation to the knowledge of the other area, which requires the research to prove the same.

Hardly any significant research has been done in this area. The investigator consulted the surveys of Educational research by Dr. M.B. Buch and N.C.E.R.T, New Delhi and has found that almost negligible study has been done ill the area related to these variables. Therefore, the researcher thought it better to investigate in this unexplored territory of research and to find out the relationship between the Academic Achievement in the Science Academic Anxiety, Intelligence and Reading Interest between the students of Government and private Schools.

1.1 ACHIEVEMENT

Achievement refers to the level of success and of proficiency attained in some specific area concerning academic work. In the present study, the term academic achievement has been used interchangeably. The world is becoming more and more
cooperative. Quality of performance has become the key factor for personal progress, where achievement is a very important variable.

Among the major developmental tasks confronting the children during the middle childhood years are the development of various intellectual and academic skills and the motivation to master them. Academic or scholastic achievement has become an index of child’s future in this highly competitive world. It is only a drop in the vast sea of education and great many students would appear not to give themselves credit commensurate with their known or rated abilities. Many times students of undoubted average or abilities excel (Katyal and Bindra, 1995).

The outcome of education determines the level of life, progress and status of the people living anywhere in the world and it is the vital force for the development of human life and society at large. In India, with the march of democracy and the proposals for the compulsory free education at the elementary level as/and a different view of the scope and responsibility of educators has emerged. This goal is envisaged in maximizing the achievement of all children. Early research on the prediction of academic performance focused primarily on intelligence and ability factors as predictors.

Moreover, achievement during the past and the present has been the main objective of the students. The parents and the teachers expect and try that the achievement of the students should be the highest. On the basis of the achievement, the child is graded and evaluated as high achiever or low achiever. The achievement of the child depends upon the main factors namely upon the child's interest, motivation, adjustment and reading interest. An achievement test used to measure the students' knowledge in a particular subject. How much a student has been benefitted from the learning experiences given to him, this can be evaluated with the help of the achievement test.

The parents want that their children should climb the ladder of performance to a very high level. This desire for a very high level achievement puts a lot of pressure upon the students, parents, teachers and schools. It appears that the whole system of education revolves around the academic achievement of the students. A lot of time and efforts of the educational institutions are used for helping the students to achieve
better in his/her achievement test. Academic achievement refers to the degree or level of success or the proficiency attained in some specific area concerning academic work. It is the student’s performance on cognitive tests, according to the standard set for the class. It is a measure of what has been learnt in the academic area.

The development of human resources and maximum utilization of the resources are necessary for the growth and prosperity of any society. More so for a developing nation like ours. The institutions of learning especially the schools are the principal means of socialization to develop children into useful citizens so that they fit into adult roles and also different occupational roles. It is only children who are high in their scholastic achievement who can be molded to occupy strategic position in society and thereby determine the destiny of society (Manocha, 1993). Hence scholastic achievement occupies a very important place in education as well as in the learning process. High achievement in school creates self-esteem and self-confidence in the child. Grade placement whether in a ‘slow’ or ‘fast’ section - promotion and marks are the criteria by which children assess their academic achievement. Success is ego-inflating and failure is ego-deflating. Failure not only damages the self-concept but it encourages the development of patterns of behaviour that are harmful to personal and social adjustments. By contrast, success leads to favorable self concepts which in turn, lead to good personal adjustments and favorable social evaluations. These contribute heavily to good future adjustments (Bharati Devi, 1982).

The trend in the scholastic achievement, rate of drop outs, failures and low percentage of 10th and 12th standard students in the examinations was a question for the researcher to probe into the psychological factors that leads to poor achievement. Children who are high achievers are not necessarily more intelligent than the low achievers (Hurlock, 1978). Intelligence provides insight and direction to the human potential for achieving the goal. Intelligence is related to the process of mental mechanism which is the best way to increase scholastic achievement of the children. Every child in the classroom has within himself a considerable range of talents, it is most important that the school offer a variety of avenues to success. A student’s deficiency in academic subject is no reason to assume that he is completely lacking in talent. Every individual can be encouraged to identify and develop his talents to the
highest level. The failure of the school to do this deprives the individuals’ talents. 
(Dutt, 1998) Some of the factors may play a pivotal role in determining the success or failure of the students in their academic performance.

Family and school environment has a predominant and governing influence on the development of the child. The family is the first social group with which the child is identified; he/she spends more time with the family group than with any other social group. Family members are most significant people in the child’s life during the years when the foundations of personality are being laid and familial influences are broader, which influences the academic achievement of the children. The schools should also help the children to develop short range goals. The classroom tends to be an achievement oriented setting in which children are urged to do well to meet the high standards of performance (Sud and Prabha, 2003). The school age child feels a necessity to develop intellectual skills as a part of a whole network of competencies which contribute to his sense of industry. His response to the experience of the moment, taking account of several aspects of the situation, weighing them, bringing in past experience, and even considering the future. If the child is not encouraged to develop his cognitive abilities and talents to the fullest extent his academic activities will be hindered

Achievement tests are used to measure how much students have learnt as a result of formal or non-formal instructions. Achievement test measures the present level of performance of individual or groups in academic learning. The scores of the tests are used in deciding or grading a student, suitable or what, are the areas of his strength and weaknesses. Mostly the achievement tests are used for evaluating, the course of study, efficiency of teaching, the teaching methods etc. The items of the achievement test can be classified as whether selection type items or supply type items, should be implemented.

The selection type items present the students with a set or possible responses from which they have to select the most appropriate answers. The students have to select their own answers from the supply type of items. The major categories can be used to classify the most widely used items types are as under:
Selection type items
1. Multiple Choices
2. True/False
3. Matching
4. Interpretive exercise

Supply type items
1. Short answers
2. Essay (restricted response)
3. Essay (extended response)

For the collection of data for the present study, the investigator has constructed the achievement test having multiple choice for measuring the achievement of the students of X Grade. The achievement test refers to the achievement of the students measured in terms of marks obtained by him or her in the achievement test.

The Trend Report of Research in correlates of achievement in the 4th Survey of Research in Education, Vol. I, has revealed that a student is good in memorizing in certain facts, may not be so in practical calculations based on reasoning. Sustained researches have to be carried out with reference to the different subject of study separately. Such researches may be of great help to the teachers, school administrators, guidance counselors and other counseling worker putting the aspect clearly, in propagating of education as well as different subjects or study together. It may be said that intensive studies to find out these factors which contribute to achievement in different subjects at various levels have to be undertaken. This needs a planned effort, which calls for interested groups of researches to pull up their efforts to work successfully; in the area of achievement.

In the First survey (1974), trend report in the area of correlation of achievement was developed by Dr. P.N. Dave. The studies have been classified under different sub headings e.g. Co-relations in general, personality correlation, Socio-economic status, backwardness and failure, other and under achievement and miscellaneous. In the Second Survey (1979) (developed by Prof. P.N. Dave and Prof. C.L. Anand), they have classified the studies as correlations in general Scholastic,
personality correlation, poor curriculum organization to the over and under achievers and other correlates of achievement. In the third survey (1986) developed by Prof. C.L. Anand and M.S. Padma, the studies have been classified as personality correlation, socio-economic status and achievement or over and under achiever, achievement of SC/ST students, incidental achievement and characteristic and miscellaneous.

The 4th surveys trend report has categorized the studies under three main headings:

**A. Variable Wise**
1. Achievement and inherent variables of students
2. Achievement and teaching variables
3. Achievement and social change variables
4. Achievement and other variables

**B. Educational Level Wise**

Most or the studies have drawn samples from high Schools as the studies in this area is operated at lower levels, primary, secondary, higher secondary and higher education.

- **Subject Wise**

  The studies in this area is related to subjects like General Insurance, life Insurance, Physics, Chemistry, Biology, Mathematics, English, Hindi, Oriya, Gujarat, Social Studies, History, Geography, Civics, Arts, Commerce, Home Science etc. Mathematics and Science have dominated the scene of research in relation to various other subjects.

  The studies which have considered variables like intelligence, academic anxiety, values, interest, aptitude etc. as correlates of achievement have been stated under heading achievement variables of students.

  Academic performance is a complex student’s behaviour and it underlies several abilities, e.g., memory, previous knowledge or aptitude as well as psychological factors such as motivation, interests, temperaments or emotions, to name a few (Deary, Whiteman, Starr, Whalley, & Fox, 2004). Educational
psychologists and researchers have argued that there are many determinants of academic performance (Chamorro-Permuzic & Furnham, 2003). Danskin and Burnett (1952) found that students getting higher marks had more effective study habits as compared to students who had ineffective study habits and thus lagged behind in studies. Similarly, L. D. Crow and Crow (1963) found academically poor achievers to have less effective study habits as compared to academically high achievers. In the same context, Sorenson (1964) found that pupils who got more scholarships had better study habits than the pupils who did not achieve scholarships. For academic achievement, being smart is more important than being intelligent and hardworking and involves being practical, having common sense and using better organization and application of good study habits (Clark, 1996). In addition to study habits, researchers have demonstrated the importance of parental involvement in their childrens’ academic performance (Hannon & Jackson, 1987).

1.2 ANXIETY

The desire to achieve high puts a lot of pressure on students which becomes tension and anxiety. Anxiety in a way, is the most intimate experience to man. It enters into man's life with the first breath and ends with the last. It is the main cause of all mental disorders. The word 'anxiety' came from the Latin word 'anxietus' which means 'experience of varying blends of uncertainty, agitation and threat'. The credit to introduce the word in psychology goes to Freud (1894). He has expressed that anxiety results due to suppression of romantic sexual tensions.

Anxiety is one of the most studied phenomenons in psychology. It is a normal human response to stress. The concept of anxiety is differentiated from fear as it is defined as a response to an unidentifiable threat as anticipated danger. Furthermore anxiety responses are often more intense and frequent than is warranted by perceived threat; the fear response is proportionate to the objective danger. The word ‘anxiety’ has been derived from the Latin word ‘Anxietas’ which commonly connotes on experience of varying blends of the uncertainty, agitation and dread. Anxiety has been defined as the socio-psycho-physiologic phenomenon experience as a foreboding dread or threat to the human organism whether the threat is generated by internal, real or imagined dangers, the sources of which may be conscious or unconscious whether
the threat is secondary to the actual environmental threats of a biosocial, biophysical or biochemical nature (Keable, 1989). According to Dollard and Miller (1950), anxiety is a sub type of fear and learned drive i.e. considered as a disruption in the organism’s homeostasis, ultimately relating to the occurrence of painful stimulation.

Anxiety is a prolonged state of fear. It is an emotion that is difficult to define and even more difficult to reliably detect in performance. “Nervousness” is often used to synonymously with anxiety. Anxiety plays an important role in the acquiring of motor skill as well as in athletic performance. Anxiety can either enhance or inhibit performance. Whether its effect is positive or negative depends on how an individual athlete perceives the situation. People with low and high levels of anxiety have been known to perform poor and there is also a positive relationship between high and low level of anxiety. But moderate level of anxiety seems best for the acquisition and performance of motor skills.

Anxiety plays a very dominant role in human life. There is always a desire of a student to be on the top in the class, which puts a lot of pressure on the student to cause tension and Anxiety. Anxiety is a way, which can be said the most intimate experience to a man. The word Anxiety has been taken from the Latin word ‘Anxietus’, which means experience of varying blends of uncertainty, agitation and threat.

Anxiety refers to the psychological state that occurs when an individual experiences a sense of impending or threatening danger. According to Freud (1936), there are three sources of Anxiety:
1. External world
2. The Id
3. The Super Ego

Everyone suffers from anxiety in greater or lesser degree from time to time as a result of specific situations for which anxiety is reasonable response. Anxious children display poorer recall than less anxious children, and it is believed that the anxiety creates distracting stimulation that deflects attention from relevant incoming information and therefore impairs memory and intellectual abilities. The degree of anxiety associated with intellectual mastery occurs under two conditions – when
expectancy of success or failure is moderate and when motivation is high but expectancy of success is low. In the first instance, the child is maximally uncertain about how he will perform on a test and the uncertainty generates anxiety. The child would be much less anxious if he knew definitely he would pass or fail. In the second instance, the child values competence on a particular intellectual task but expects to fail. When there is discrepancy between a valued goal and the expectancy of obtaining that goal, anxiety is likely to be generated.

Anxiety may be only regarded as a disorder when it occurs in the absence of an appreciable degree or a kind of threat or danger. Anxiety may be a diffuse, free-floating but persistent feeling of unease i.e. generalized anxiety; or it be a fear attached only to specific object or situations i.e. phobia. It may also occur intermittently in extremely acute form i.e. panic attacks. Anxiety may take the form of a state which in temporary feeling of subjective and physical tension or it may be described as a trait in which it takes the form of relatively permanent personality characteristic. Hence, anxiety has been conceptualized as an experience or a learned drive or a learned response with drive properties, or a state of physiological arousal or a particular pattern of cortical or endocriniological functioning or a consequence of a person’s efforts to sustain his individuality or some combination of these.

Anxiety is characterized by defuseness and uncertainty. Fear is a perceived threat to the biological self. Anxiety is a subjectively apprehended threat to the psychological self. Anxiety has different component namely insecurity, loneliness, depression, self-consciousness, inferiority complex, guilt proneness and emotional instability. Anxiety can be either a trait of a person or a state Anxiety. A trait Anxiety is a suitable characteristic or trait or of person where as state Anxiety is one, which is aroused by some temporary condition or the environment such as accident, examination and fear of punishment.

When we refer, the academic Anxiety, we call it a kind of stale Anxiety, which relates to the impending danger from the environment shayed out of academic institutions including the teacher and certain subjects like mathematics, English etc.

Anxiety also occurs due to overpowering nature of the symptoms such as difficulty in making decisions, sleeplessness, loss of appetite, dizziness, nervousness.
Other symptoms like exaggerated fear, changed physiological status, impaired communication, decreased orientation, lowered self-esteem, altered socialization, in effective coping abilities, failure in academic performance are also seen. Factors like difficult family situation, restricted school environment, occupational and financial difficulties without adequate support can also cause anxiety which in turn affects the academic performance of the children in the school. Hence, an imperative need was felt to study the correlates of anxiety and scholastic achievement of residential school students.

Definitions of Anxiety:

According to May (1950), "Anxiety is diffuse apprehension differing from fear in its vagueness and objectives senses and as a state that is associated with feeling of uncertainty, helplessness and threat to core or essence of personality".

According to Sullivan (1953), "Anxiety is a state of tension arising from the experience of disapproval in interpersonal relation."

According to Sarason et al. (1960), "The anxiety experience involves the fundamental emotions of fear, shame, guilt and anger."

According to Puebush (1963), "Anxiety is an unpleasant feeling state, clearly distinguishable from other emotional states and having physiological concomitants."

According to Epstein (1967), "Anxiety is a state of undirected arousal following perception of danger."

According to Dutt (1974), "Anxiety constitutes particular unpleasant psychological and physiological reactions of an organism to extrinsic or/and intrinsic threat which amounts to disintegration or extinction of the organism."

The term 'Anxiety' seems to be diffused if one looks at the various definitions because it lacks singular operational reference. Nevertheless, there is substantial convergence of opinion of its general nature. But there is agreement that the effects of anxiety are generally maladaptive and debilitating rather than adoptive and facilitating with respect to scholastic behaviour.

These are instances of normal Anxiety. Normal Anxiety is a reaction to threat; to values, the individuals' help essential to his existence as a personality. But normal anxiety is that which arises a state of fear that is out of proportion or for existence
without any discernible cause for example a mother experiences the intense Anxiety about the safety of her children, nothing of the time that there is no unusual danger.

Here the feeling of Anxiety is out of proportion to the cause. Some persons experience a sudden state of intense fear, the Anxiety, attacks, which only lasts a few moments and then subsides.

**Types of Anxiety :**

Freud identified three kinds of anxiety viz. - objective anxiety, neurotic anxiety and normal anxiety, depending on whether the source of danger was from external world or from internal impulses or conflicts. Objective anxiety which was synonymous with fear was evoked by real dangers in external world. The intensity of objective anxiety was proportional to the actual danger. Neurotic Anxiety was evoked by unaccepted sexual and aggressive impulses that had been severely and consistently punished in childhood. A study of research reveals four bases of classification of anxiety which are listed below or are briefly described in the section to follow:

(i) Normal anxiety and Neurotic anxiety  
(ii) Situational anxiety and Characterological anxiety  
(iii) Conscious anxiety and Unconscious anxiety  
(iv) State anxiety and Trait anxiety

**Normal Anxiety:**

In normal anxiety, one may face certain kind and degree of threat. He faces limitations of his powers, the degrees of his vulnerability. Limitation and vulnerability are not expressions of illness but are inherent in the nature of man.

**Neurotic Anxiety :**

In neurotic anxiety, the individual faces a host of threats which endanger of the neurotic character structure. He must maintain these out of strongest inner necessity to protect his feelings of safety and unity. These have acquired enormous subjective value for him so that he must protect them in order to maintain his sense of identity and his feeling of worth. At the core of anxiety, is a feeling of better helpless and lack of feeling of wholeness.
Situational Anxiety:
When an individual feels anxiety because of situation in which he finds himself, no sooner he is out of situation or gain control of it, then the anxiety subsides.

Characterological Anxiety:
When anxiety becomes a component of psychic make up of the individual, in such instance, the individual will worry about things that have happened and also about things that have not happened.

Conscious Anxiety:
Where the individual is conscious of what he is anxious about. Here the cause is mostly known and the individual knows that he is anxious.

Unconscious Anxiety:
When an individual experiences enduring spells of tension and restlessness without knowing what makes him so, the anxiety is called unconscious anxiety. The manifestation of unconscious anxiety may be at the physiological level, usually in the form of psychosomatic reactions, e.g. asthma, migraine, urticaria, duodenal-ulcers, high and low blood pressure, general dyspepsia, anorexia nervosa etc.

Trait Anxiety:
Trait anxiety is defined as a personality trait describing the extent to which individuals are prone to manifest 'State' anxiety under conditions of stress. This corresponds to characterological anxiety.

State Anxiety:
State anxiety is defined as a transitional state of apprehension and tension which is reaction of stress. This corresponds to situational anxiety.

Anxiety as a Motivator:
There are many positive aspects of anxiety, but usually the negative aspects are highlighted. A little anxiety from time to time can be beneficial to task performance. This is illustrated by the Yerker-Dodson law (1908) which postulates that the relationship between anxiety and learning is curvilinear. Neither lower nor higher level of anxiety improves performance. Optional positive effect is obtained in the middle range. There is research evidence which supports it and indicates a curvilinear

**The main causes of anxiety**

At the same time as providing challenge and stimulation, sport also provides considerable uncertainty. At the precise moment the Olympic archer releases an arrow, or the rugby fly-half kicks for goal, the outcome is unknown. The stress that sport provides therefore is inevitably linked with its inherent uncertainty. Sport is a cultural focal point because it is a theatre of unpredictability.

While stress and uncertainty may motivate some athletes, they induce anxiety in others. There are some distinct factors that can increase athletes’ level of anxiety. For example, the more important the contest the greater the stress, and the more likely it is that a competitor will be prone to anxiety.

Also, spectators can have a huge impact on how athletes feel. In fact, studies of the home advantage phenomenon show that teams playing at their home venue win on average, around 56-64% of the time, depending on the sport. The impressive medal count of host nations during Olympic Games is also notable, in particular the record-breaking haul of medals won by Australia in Sydney (2000) and by Greece in Athens (2004).

Participants in individual sports have been shown generally to suffer more anxiety before, during and after competition than participants in team sports. This is because the sense of isolation and exposure is much greater in sports such as triathlon, tennis and snooker than in the relative anonymity of field sports.

For athletes in high-contact sports such as boxing and martial arts, the possibility of getting hurt can also be a source of anxiety. Typically, this anxiety causes some critical changes in technique. For example, anxious boxers will often lean too far forward, be clumsy in their leg movements or fight defensively, any of which may result in them getting knocked out.

An additional factor that causes anxiety is the expectation of success. The expectations held by British tennis fans for Tim Henman and Greg Rusedski to win the men’s singles title at Wimbledon have hung over these players like a dark cloud. Some athletes rise to the challenge imposed by public expectation while others can
choke. The trick is to become sufficiently ‘psyched-up’ without becoming ‘psyched-out’.

**Competition anxiety theory and research**

British sport psychologist Graham Jones developed a model of competition anxiety that has been widely used in the last decade. Jones contends that it is the perception of our ability to control our environment and ourselves that determines the anxiety response. Hence, if you believe you can cope in a particular sporting situation, you will tend to strive to achieve your goals with positive expectations of success. Having positive expectations will invariably mean that you will be more confident and therefore more likely to perform close to your best.

The feeling that you can control a particular stressor such as a menacing rival or a niggling injury will mean that the symptoms of anxiety – butterflies in the stomach, elevated heart rate, sweat secretion, and so on – are interpreted as facilitative or helpful towards performance. If your judgement is that you do not have control over the situation – that your opponent is too strong or that a sore calf muscle will hold you back – then those same symptoms will be interpreted as debilitative, or likely to impair performance. The probable consequence is that this interpretation will become a self-fulfilling prophecy and your performance levels will plummet.

In the present research, SCAT (Sinha's Comprehensive Anxiety Test) constructed and standardized by Dr. A.K.P. Sinha and Dr. L.N.K. Sinha has been employed for measuring the Anxiety of the sample students.

**The Psychological Importance of Anxiety**

Anxiety and conflict have been considered by most personality theorists in this century as the core issues around which human personality develops. Anxiety is the term used to describe our emotions in situations in which we experience a high level of fear that is not appropriate to the situation or when the fear is without a clear object. Anxiety also reflects an intense inner conflict in which some of the elements of the conflict may not be consciously accessible.

Anxiety, then, is a feeling of fear and dread when there is no obvious reason for the fear and is a result of extreme, usually unconscious, inner conflict. Anxiety feelings may range from mild vague uneasiness to almost paralyzing terror. That fear
is best regarded as a basic emotion while anxiety usually involves a mixture of fear and other emotions such as anger, sadness, or distress. Freud in his book inhibitions, Symptoms and Anxiety first formulated the central role of anxiety in personality and in the development of symptoms and neuroses.

Most clinicians agree that many of the differences in human behavior reflect the varying ways we cope with irrational fears or the direct, “free-floating” experience of anxiety and also the ways in which education defend ourselves against the awareness of serious conflict and seek to avoid the conscious experience of anxiety. As Freud pointed out, we scarcely need to define anxiety, for who among us has not experienced, seemingly from nowhere, the sudden feeling “butterflies in the stomach”, of chilling terror that we cannot explain.

**Academic Anxiety:**

The word academic anxiety comes from Latin word ‘*Anxients*’ which means experience of varying blends of uncertainly, agitation and threat. The desire to achieve high puts a lot of pressure on students which causes tension and examination anxiety. Academic anxiety in a way, is the most intimate experience to man. It enters into man’s life with the first breath and ends with the last. It is the main cause of all mental disorders. *Tomb and Hunter (2004).*

On scanning Vedic literature it was found that the concept of examination anxiety as such did not exist in that period. The word ‘*Chinta*’ which according to some dictionaries stands for examination anxiety, has not been used in the same sense as in modern usage. Some invariably use “*Chinta*” for “*Vichara*” (Thought) which is also one of the accepted meaning of “*Chinta*”.

**Swami Vivekananda** defined anxiety as one of the thirty three subordinate feeling in *Rhetoric’s*. Such feeling will be aroused under the circumstances when the person has not been able to achieve his object or in worried over any forthcoming less, damage or painful thought.

Interpreting examination anxiety biologically. Goldstoin’s central thesis is that examination anxiety is the subjective experience of the organism in the catastrophic condition. *Goldstoin (1951).* In examination anxiety, disorganization is clearly apparent ..........................The experience of “losing one’s existence.............. The
behaviour in examination anxiety is thus not on the same level as that under other conditions of emotions”.

**Webster (1956)** defines examination anxiety as a painful easiness of mind over an impending or anticipated illness. According to American Psychiatric Association (1952), examination anxiety is a danger signal felt & perceived by the conscious portion of the personality. It is produced by a threat from within the personality……

With or without stimulation from ………..external situation. **English & English (1958)** describe examination anxiety as an unpleasant emotional state in which a present and continuing strong desire or drive seems likely to miss its goal, a fusion of fear with the anticipation of future evil, marked and continuous fear of low intensity, a feeling of threat, especially of a fearsome threat without the person’s being able to say that he thinks-threatened.

In **Mandle’s (1966)** analysis of examination anxiety, the interruption of organized plans or sequences of behaviour is a fundamental condition that leads to states of disbars and arousal. When no alternate behaviour is available as an alternate for the original plan, helplessness is defined, not by objective situation, but by the individual and his repertory of behaviour, **Epstein (1967)**, defines examination anxiety as “a state of undirected arousal following perception of danger”. **Dutt (1974)** defines examination anxiety as “Examination anxiety constitutes particular unpleasant psychological, and physiological reactions of an organism to extrinsic or/and intrinsic threat which amounts to disintegration or extinction of the organism.”

**Sullivan (1953)**, “Examination anxiety is a state of tension arising from the experience of disapproval in interpersonal relation.”

**Sarason et al. (1960)**, “The examination anxiety experience involves the fundamental emotions of fear, shame, guilt and anger”.

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**Types of Academic Anxiety:**

Freud identified three kinds of academic anxiety viz. objective examination anxiety, neurotic examination anxiety and normal examination anxiety, depending on whether the source of danger was from external world or from internal impulses or conflicts.

Objective academic anxiety which was synonymous with fear was evoked by real dangers in external world. The intensity of objective examination anxiety was proportional to the actual danger. Neurotic Examination anxiety was evoked by unaccepted sexual and aggressive impulses that had been severely and consistently punished in childhood. A study of research reveals four bases of classification of examination anxiety which are listed below or are briefly described in the section to follow:

1. Normal academic anxiety and Neurotic academic anxiety
2. Situational academic anxiety and Characterological academic anxiety
3. Conscious academic anxiety and Unconscious academic anxiety
4. State academic anxiety and Trait academic anxiety

(i) **Normal Academic Anxiety:**

In normal academic anxiety, one may face certain kind an degree of threat. He faces limitation of his powers, the degrees of his vulnerability. Limitation and Vulnerability are not expressions of illness but are inherent in the nature of man.

Neurotic academic Anxiety: In neurotic examination anxiety, the individual faces a host of threats which endanger of the neurotic character structure. He must maintain these out of strongest inner necessity to protect his feelings of safety and unity. These have acquired enormous subjective value for him so that he must protect them in order to maintain his sense of identity and his feeling of worth. At the core of examination anxiety, is a feeling of better helpless and lack of feeling of wholeness.
(ii) **Situational Academic Anxiety:**

When an individual feels Academic anxiety because of situation in which he finds himself, no sooner he is out of situation or gain control of it, then the examination anxiety subsides.

**Characterological Academic Anxiety:**

When examination anxiety becomes a component of psychic makeup of the individual, in such instance, the individual will worry about things that have happened and also about things that have not happened.

(iii) **Conscious Academic Anxiety:**

Where the individual is conscious of what he is anxious about. Here the cause is mostly known and the individual knows that he is anxious.

**Unconscious Academic Anxiety:**

When an individual experience enduring spells of tension and restlessness without knowing what makes him so, the examination anxiety is called unconscious examination anxiety. The manifestation of unconscious examination anxiety may be at the physiological level, usually in the form of psychosomatic reactions, e.g. asthama, migraine, urticaria, duodenal-ulcers, high and low blood pressure, general dyspepsia, anorexia nervosa ETC.

(iv) **Trait Academic Anxiety:**

Trait Examination anxiety is defined as a personality trait describing the extent to which individuals are prone to manifest ‘State’ examination anxiety under condition of stress. This corresponds to characterological examination anxiety.

**State Academic Anxiety:**

State examination anxiety is defined as a transitional state of apprehension and tension which is reaction of stress. This corresponds to situational examination anxiety.

**Academic Anxiety as a Motivator:**

There are many positive aspects of academic anxiety, but usually the negative aspects are highlighted. A little academic anxiety from time to time can be beneficial to task performance. This is illustrated by the Yerker-Dodson law (1908) which postulates that the relationship between examination anxiety and learning is...
Neither lower nor higher level of academic anxiety improves performance. Optional positive effect is obtained in the middle range. There is research evidence which supports it and indicates a curvilinear relationship between test academic anxiety and performance. Application of Yerker-Dodson Law to human learning seems eminently sensible.

1.3 INTELLIGENCE

The history of man, like that of other forms of existing life has been one of evolution, adaptation and change in order to achieve continuation and progress. Man however, has surpassed other creature in the development of brain and this has made him superior to other species in his behaviour and in control of his environment. But it is well known fact to us all, that the individuals have different capabilities to adapt and change this environment one thinks differently from the other. He solves the problems concerning to his environment and to overcome the hurdles in the way of his progress, and in paving new paths of his progress quickly than this fellows one feels it very difficult to adjust with his peers while the others are very efficient in doing so. There are some persons who are good at the scale of judging well and thinking well while others are dull on this scale. One can think more rational than the others. These all differences are dependent to large extent on a very important quality of behaviour, what the psychologists call 'Intelligence'. The term intelligence is vague and ambiguous in its meaning. Psychologists in India as well as abroad have been interpreting the term in different ways and they are in a agreement on the meaning of the term intelligence. During last 60 years much researches have been done in the various field of subject of intelligence including the meaning and nature of intelligence. A lot of literature has been produced by the psychologists of fame on this topic. In psychological literature, intelligence has been treated as a construct, no one knows what intelligence is. In this regard E. Hine says “Intelligence is that which cannot be defined.” There is no end to the definitions of intelligence just as there is no end to the definitions of education, life, love and God. Many questions like, is intelligence a single ability or a combination of several different abilities. Can a person be highly intelligent is some respect but below average in others? It is,
therefore, clear how a complex and inexact concept of intelligence is due to the vagueness. In recent years concept of intelligence has become less acceptable and more expose to criticism by psychologists. Several definitions have been advanced by the psychologists but they do not agree among themselves. There are different opinions. Ross, Burt, Stern, Woodworth, Alfred Binet. MC Dougall, Godard, William James and many other psychologists have emphasized adjustment, others like Buckingham, Dearon, Thorndike have taken ability to learn as the criterion. While the other psychologists Spearman, Terman etc. have emphasized the abstract thinking in defining intelligence. There are few names, which are known for giving comprehensive definitions of intelligence.

“Viewed narrowly, there seem to be almost as many definitions of intelligence as there were experts asked to define it.” R. J. Sternberg quoted in Despite a long history of research and debate, there is still no standard definition of intelligence. This has lead some to believe that intelligence may be approximately described, but cannot be fully defined. We believe that this degree of pessimism is too strong. Although there is no single standard definition, if one surveys the many definitions that have been proposed, strong similarities between many of the definitions quickly become obvious. In many cases different definitions, suitably interpreted, actually say the same thing but in different words. This observation leads us to believe that a single general and encompassing definition for arbitrary systems was possible. Indeed we have constructed a formal definition of intelligence, called universal intelligence, which has strong connections to the theory of optimal learning agents.

Intelligence is a very general mental capability that, among other things, involves the ability to reason, plan, solve problems, think abstractly, comprehend complex ideas, learn quickly and learn from experience. Rather than exploring very general formal definitions of intelligence, here we will instead take the opportunity to present the many informal definitions that we have collected over the years. Naturally, compiling a complete list would be impossible as many definitions of intelligence are buried deep inside articles and books. Nevertheless, the 70 odd definitions presented below are, to the best of our knowledge, the largest and most well referenced
collection there is. We continue to add to this collect as we discover further definitions, and keep the most up to date version of the collection available online. If you know of additional definitions that we could add, please send us an email.

**Collective definitions**

In this section we present definitions that have been proposed by groups or organisations. In many cases definitions of intelligence given in encyclopedias have been either contributed by an individual psychologist or quote an earlier definition given by a psychologist. In these cases we have chosen to attribute the quote to the psychologist, and have placed it in the next section. In this section we only list those definitions that either cannot be attributed to a specific individuals, or represent a collective definition agreed upon by many individuals. As many dictionaries source their definitions from other dictionaries, we have endeavoured to always list the original source.

All Words Dictionary (2006) “The ability to use memory, knowledge, experience, understanding, reasoning, imagination and judgement in order to solve problems and adapt to new situations.”

All Words Dictionary (2006), “The capacity to acquire and apply knowledge.”

The American Heritage American Psychological Association [28 “Individuals differ from one another in their ability to understand complex ideas, to adapt effectively to the environment, to learn from experience, to engage in various forms of reasoning, to overcome obstacles by taking thought.”

Cambridge Advance Learner’s Dictionary, 2006 “The ability to learn, understand and make judgments or have opinions that are based on reason”

**Psychologist definitions**

This section contains definitions from psychologists. In some cases we have not yet managed to locate the exact reference and would appreciate any help in doing so.

According to A. Anastasi “Intelligence is not a single, unitary ability, but rather a composite of several functions. The term denotes that combination of abilities required for survival and advancement within a particular culture.”
According to M. Anderson “. . . that facet of mind underlying our capacity to think, to solve novel problems, to reason and to have knowledge of the world.” A. Binet. “It seems to us that in intelligence there is a fundamental faculty, the alteration or the lack of which, is of the utmost importance for practical life. This faculty is judgment, otherwise called good sense, practical sense, initiative, the faculty of adapting oneself to circumstances.” W. V. Bingham [6] “We shall use the term ‘intelligence’ to mean the ability of an organism to solve new problems . . .”

According to E. Boring “Intelligence is what is measured by intelligence tests.” C.L. Burt “. . . a quality that is intellectual and not emotional or moral: in measuring it we try to rule out the effects of the child’s zeal, interest, industry, and the like. Secondly, it denotes a general capacity, a capacity that enters into everything the child says or does or thinks; any want of ‘intelligence’ will therefore be revealed to some degree in almost all that he attempts;”

According to H. J. Eysenck. “Intelligence A: the biological substrate of mental ability, the brains’ neuroanatomy and physiology; Intelligence B: the manifestation of intelligence A, and everything that influences its expression in real life behavior; Intelligence C: the level of performance on psychometric tests of cognitive ability.”

According to H. Gardner “An intelligence is the ability to solve problems, or to create products, that are valued within one or more cultural settings.” J. Piaget “Intelligence is assimilation to the extent that it incorporates all the given data of experience within its framework . . . There can be no doubt either, that mental life is also accommodation to the environment. Assimilation can never be pure because by incorporating new elements into its earlier schemata the intelligence constantly modifies the latter in order to adjust them to new elements.”

According to Stoddard. “. . . the ability to undertake activities that are characterized by (1) difficulty, (2) complexity, (3) abstractness, (4) economy, (5) adaptedness to goal, (6) social value, and (7) the emergence of originals, and to maintain such activities under conditions that demand a concentration of energy and a resistance to emotional forces.”
According to L. Thurstone. “Intelligence, considered as a mental trait, is the capacity to make impulses focal at their early, unfinished stage of formation. Intelligence is therefore the capacity for abstraction, which is an inhibitory process.”

“The capacity to inhibit an instinctive adjustment, the capacity to redefine the inhibited instinctive adjustment in the light of imaginably experienced trial and error, and the capacity to realise the modified instinctive adjustment in overt behavior to the advantage of the individual as a social animal.” L. L. Thurstone quoted in

According to D. Wechsler, “A global concept that involves an individual’s ability to act purposefully, think rationally, and deal effectively with the environment

**Is a single definition possible?**

In matters of definition, it is difficult to argue that there is an objective sense in which one definition could be considered to be the correct one. Nevertheless, some definitions are clearly more concise, precise and general than others. Furthermore, it is clear that many of the definitions listed above are strongly related to each other and share many common features. If we scan through the definitions pulling out commonly occurring features we find that intelligence is:

A property that an individual agent has as it interacts with its environment or environments is related to the agent’s ability to succeed or profit with respect to some goal or objective.

Depends on how able to agent is to adapt to different objectives and environments. Putting these key attributes together produces the informal definition of intelligence that we have adopted, “Intelligence measures an agent’s ability to achieve goals in a wide range of environments.” S. Legg and M. Hutter

Features such as the ability to learn and adapt, or to understand, are implicit in the above definition as these capacities enable an agent to succeed in a wide range of environments.

**1.4 READING INTEREST**

In Latin, the word "Interest" means it matters or it concerns. A thing which interests us is just something that concerns us or matters to us. Interest means making a difference. We are interested to know about the new things, new objects because they concern us and they make a difference to us. It is also said that interest is the
central force, which drives the whole setting or the teaching learning process. Crow and Crow (1986) says, "Interest may refer to the motivating force that impels us to attend to a person, a thing or an activity, or it may be the effective experience that has been stimulated by the activity itself. In other words interest can be the course of an activity and the result of participation in very particular activity. Interest is an inner force within an individual which attracts or detract him from the person's, activities and objectives within the environment.

Reading interests play an important role in human performance in academic field. It is obvious that those who have better study habits they may have a good academic success. Reading interest, a confirmed way of doing things. Good reading interests are central factor in learning happiness, efficiency and profession life depends upon the cultivation of good habits. Interest occupies a very important place in the development of personality. Reading interest formation dominates the way of learning and doing things. Good reading interest provides effective motivation to the learner. Childhood is the best time for habit formation because child’s mind is most elastic and impressionable to everything that occurs around him.

Reading interest or study skills can be defined as those habits or skills with the help of which the progress of student academic activities can be accelerated by planning and organization of his work, how much time he needs to devote to his studies which subjects he will study and when what he intends to achieve during each study sessions and how to organize those activities to accomplish his goals.

The term reading interest has been used to mean various methods and practices adopted by the student in their school and college studies. Poor reading interest is one of the biggest and most persistent problems among the school and college students. Effective study consists of much more than merely memorizing facts. It calls for knowing where and how to obtain facts and the ability to make intelligent use of time. It means that the student must be able to organize, classify and arrange facts in their proper relationship to the subject being studied.

Drever mentioned, Interest is disposition in its dynamic aspect”. Sawhery and Telford say interest as favorable attitude towards object. Interest can be defined as the
feeling which accompanies special attention to some objects. It is a sort of feeling which promotes us for spontaneous activities.

According to Smith (1961), “Reading interest includes students habit of concentration, note taking, time budgeting and study methods.

Swami Vivekanand explains how interests are developed in us and how finally our whole personality in influenced by our habits and concludes that (everything we are in the result of habits) what we have become and what we shall be all are due to our habits.

One's interest is of measure of what one will do or what one can do. It is a driving force. It helps students to acquire certain learning experiences and also colors and fashions their attitude, aptitude and other personality traits. It is said that reading is the quick association of the eye movement with the words while understanding them.

All reading without understanding is useless. A person, who reads always remains well informed about the national and international problems. Reading also helps to solve the socio-economic problems especially of the poverty, population explosion, pollution etc. It is only through reading that one can know about these problems which are a direct global threat to the international peace, prosperity and progress. Reading also widens the range of information and broadens the outlook of life. Reading is also a source of great recreation and pleasure. One can spend one's leisure by reading and can enjoy reading by transporting oneself through imagination to fairyland. One can Unfold the mysteries of knowledge through the ability to read an (I understand the ideas and ideals.

It has been observed that in case of some students although they have a good level of I.Q., they do not show expected results due to poor reading interests. Without knowing the art of study, a student cannot learn much. It is obvious that whatever the habits are developed in their school career, the similar interests are carried away by the students to the institution of higher education, colleges and universities. The company of the students which he keeps, has also tremendous effect on developing reading interests.
The need of the hour demands that all the students should have interest in reading the text books and to inculcate habits of effective learning. Practice in good reading interests will prevent maladjustment and serious behavioural problems like truancy, day-dreaming, withdrawal and juvenile delinquency. Therefore effective reading interests attachment essential in the teaching and learning situation. So it is evident that reading interests play an eminent role in the academic success of students.

The inculcation of creating interest among the students for reading rests upon the abilities of the teacher. Teacher can inspire the students for reading. The ideas of teachers on various aspects of life directly influence the ability of interest among the students. If we want to achieve the aim of literacy, we have use reading is the effective tool. It is said reading is the key towards world peace, prosperity and progress.

1.5 RATIONALE OF THE STUDY

As a society becomes increasingly complex owing to rapid scientific and technological progress, it needs high capacity manpower to sustain and maintain the pace of progress of the society. For reasons such as this, the concept of intelligence is becoming increasingly important in modern societies. No sphere of life, whether it is education or social and physical science, literature or art etc. has remained uninfluenced by the intelligence. The working force behind the success and attainments of world’s greatest laureate, scientists, psychologists and politicians etc. has been one and only, and that is intelligence. Intelligence not only enables an individual to attain great heights of success in life but also develops in him the ability by which he is well adjusted in his environment and saves himself from becoming its victim. Life is full of challenges and surprises and it is intelligence and self-confidence which prepares us for facing these challenges and accepting these surprises as successfully as possible. There is no gainsaying the fact that a person’s intellectual development at a particular stage is the sum of what he inherited from his parents and his experiences as a result of interaction with the environmental situations. Since we can not control or modify the hereditary factors we need to
provide the most conducive environmental situations for the proper intellectual development of the children in our charge.

The investigator consulted the surveys of Educational research by Dr. M.B. Buch, and the 4th Survey of Educational Research by N.C.E.R.T. The researcher also consulted a bibliography, Educational Research and innovations 1988-92 by P.N. Dave and C.G. Venketesha Murthy published by N.C.E.R.T. and also Indian Educational Abstracts published by N.C.E.R.T. and found hardly any significant study related to these variables has been done. Therefore, the researcher intended to study the effect of achievement upon the public school students of X Class in relation to Intelligence, Academic Anxiety, and Reading Interest and to compare the same with the Government and private Schools. Intelligence, Academic Anxiety, Reading Interest, which the researcher has taken to conduct the research proposal are Academic Anxiety, Intelligence and Reading Interest of the students of the X class. Nobody can predict about the achievement of the students in science in the Government and Private Schools. It is yet an unexplored territory. The researcher has to dive deep into the ocean of knowledge to bring to light the new vistas of research findings. It is just like as the diver brings the pearls and diamonds from the bottom of the sea. In the same way, the researcher brings the light new facts and new relationship among these variables upon which the research is conducted.

1.6 STATEMENT OF THE PROBLEM

“A COMPARATIVE STUDY OF THE ACHIEVEMENT IN SCIENCE IN RELATION TO INTELLIGENCE, ACADEMIC ANXIETY AND READING INTEREST OF THE X CLASS STUDENTS IN GOVERNMENT AND PRIVATE SCHOOLS OF HARYANA”.

1.7 VARIABLE USED IN THE STUDY

Independent Variables
- Academic Anxiety
- Intelligence
- Reading Interest
Dependent Variable

- Achievement test in Science

1.8 OPERATIONAL DEFINITIONS OF THE TERMS USED IN THE STUDY

(i) Achievement:
The term achievement refers to the marks obtained by the candidate in the achievement test. In the present study, it is used in relation to the achievement in science.

(ii) Reading Interest:
Reading Interest implies the interest of the person to read more reading material other than curriculum and to make reading as a pleasure pursuit.

(iii) Academic Anxiety:
It is a state of mind while concentrating on the studies. It varies from person to person in different situations.

(iv) Intelligence:
The ability to use memory, knowledge, experience, understanding, reasoning, imagination and judgment in order to solve problems and adapt to new situations.

1.9 OBJECTIVES OF THE STUDY

1. Academic Anxiety

1.1. To compare the Academic Anxiety of the students of Xth class in Government and Private Schools.

1.2. To compare the Academic Anxiety of the male and female students of Xth class in Government Schools.

1.3. To compare the Academic Anxiety of the male and female students of Xth class in Private Schools.

1.4. To compare the Academic Anxiety of the male students of Xth class in Government and Private Schools.

1.5. To compare the Academic Anxiety of the female students of Xth class in Government and Private Schools.
2. **Intelligence**
   2.1. To compare the intelligence of the students of Xth class in Government and Private Schools.
   2.2. To compare the intelligence of the male and female students of Xth class in Government Schools.
   2.3. To compare the intelligence of the male and female students of Xth class in Private Schools.
   2.4. To compare the intelligence of the male students of Xth class in Government and Private Schools.
   2.5. To compare the intelligence of the female students of Xth class in Government and Private Schools

3. **Reading interest**
   3.1. To compare the Reading interest of the students of Xth class in Government and Private Schools.
   3.2. To compare the Reading interest of the male and female students of Xth class in Government Schools.
   3.3. To compare the Reading interest of the male and female students of Xth class in Private Schools.
   3.4. To compare the Reading interest of the male students of Xth class in Government and Private Schools.
   3.5. To compare the Reading interest of the female students of Xth class in Government and Private Schools.

4. **Achievement in Science**
   4.1. To compare the Achievement in Science of the students of Xth class in Government and Private Schools.
   4.2. To compare the Achievement in Science of the male and female students of Xth class in Government Schools.
   4.3. To compare the Achievement in Science of the male and female students of Xth class in Private Schools.
   4.4. To compare the Achievement in Science of the male students of Xth class in Government and Private Schools.
4.5. To compare the Achievement in Science of the female students of Xth class in Government and Private Schools.

5. **Relationship between independent variables upon science scores**

5.1 To find the relationship between Academic Anxiety and Academic Achievement in Science of the X Class students.

5.2 To find the relationship between Intelligence and Academic Achievement in Science of the X Class students.

5.3 To find the relationship between Reading Interest and Academic Achievement in Science of the X Class students.

1.10 **HYPOTHESES**

1. **Academic Anxiety**

1.1 There is no significant difference between Academic Anxiety of the students of Xth class in Government and Private Schools.

1.2 There is no significant difference between Academic Anxiety of the male and female students of Xth class in Government Schools.

1.3 There is no significant difference between Academic Anxiety of the male and female students of Xth class in Private Schools.

1.4 There is no significant difference between Academic Anxiety of the male students of Xth class in Government and Private Schools.

1.5 There is no significant difference between Academic Anxiety of the female students of Xth class in Government and Private Schools.

2. **Intelligence**

2.1 There is no significant difference between intelligence of the students of Xth class in Government and Private Schools.

2.2 There is no significant difference between intelligence of the male and female students of Xth class in Government Schools.

2.3 There is no significant difference between intelligence of the male and female students of Xth class in Private Schools.

2.4 There is no significant difference between intelligence of the male students of Xth class in Government and Private Schools.
2.5 There is no significant difference between intelligence of the female students of Xth class in Government and Private Schools

3. **Reading interest**
   3.1 There is no significant difference between Reading interest of the students of Xth class in Government and Private Schools.
   3.2 There is no significant difference between Reading interest of the male and female students of Xth class in Government Schools.
   3.3 There is no significant difference between Reading interest of the male and female students of Xth class in Private Schools.
   3.4 There is no significant difference between Reading interest of the male students of Xth class in Government and Private Schools.
   3.5 There is no significant difference between Reading interest of the female students of Xth class in Government and Private Schools

4. **Achievement in Science**
   4.1 There is no significant difference between Achievement in Science of the students of Xth class in Government and Private Schools.
   4.2 There is no significant difference between Achievement in Science of the male and female students of Xth class in Government Schools.
   4.3 There is no significant difference between Achievement in Science of the male and female students of Xth class in Private Schools.
   4.4 There is no significant difference between Achievement in Science of the male students of Xth class in Government and Private Schools.
   4.5 There is no significant difference between Achievement in Science of the female students of Xth class in Government and Private Schools.

5. **Relationship between the independent variables upon science scores**
   5.1 There is no significant relationship between Academic Anxiety and Academic Achievement in Science of the X Class students.
   5.2 There is no significant relationship between Intelligence and Academic Achievement in Science of the X Class students.
5.3 There is no significant relationship between Reading Interest and Academic Achievement in Science of the X Class students.

1.11 DELIMITATIONS OF THE STUDY

Present study is delimited to:

- The study will be delimited to twenty schools of Rohtak and Sonepat city
- The present study will be confined to 400 students of government and private school students.
- The present study will be confined to academic achievement in science of senior secondary school students.
- The study will be delimited to comparing and finding relationship of academic achievement in science with academic anxiety, intelligence and reading interest of students.
- The study will be confined to gender of the teacher educators and nature of the institution as demographic variables.