METHODOLOGY

3.1 Introduction of Methodology

The word methodology is defined as a system which comprises the principles, practices and procedures which are applied to a specific branch of knowledge. Methodology refers to the way in which information is found or the way something is done. Methodology includes the methods, techniques and procedures which are used to collect and analyze information.

It refers to more than a simple set of methods; rather it refers to the rationale and the philosophical assumptions that underlie a particular study relative to the scientific method. This is why scholarly literature often includes a section on the methodology of the researchers.

3.2 Statement of the Problem

The problem under investigation in the present study was stated as under: “Efficacy of Different Preksha Meditation Techniques in Reducing Academic Stress and Enhancing Emotional Stability of Adolescents.”

3.3 Objectives

The study was designed to attain the following objectives:

1) To study the effectiveness of Kayotsarga on the reduction of academic stress of senior secondary school students.
2) To study the effectiveness of Jyoti Kendra Preksha on the reduction of academic stress of senior secondary school students.
3) To study the effectiveness Svasa Preksha on the reduction of academic stress of senior secondary school students.
4) To study the effectiveness of Kayotsarga in enhancing the emotional stability of senior secondary school students.
5) To study the effectiveness of Jyoti Kendra Preksha in enhancing emotional stability of senior secondary school students.
6) To study the effectiveness of *Svasa Preksha* in enhancing emotional stability of senior secondary school students.

7) To study the comparative efficacy of *Kayotsarga, Jyoti Kendra Preksha and Svasa Preksha* in reducing academic stress.

8) To study the comparative efficacy of *Kayotsarga, Jyoti Kendra Preksha and Svasa Preksha* in enhancing emotional stability of senior secondary school students.

3.4 Hypotheses

The study was designed to test the following hypotheses:

1) *Kayotsarga* would be effective in reducing the academic stress of senior secondary school students.

2) *Jyoti Kendra Preksha* would be effective in reducing the academic stress of senior secondary school students.

3) *Svasa Preksha* would be effective in reducing the academic stress of senior secondary school students.

4) *Kayotsarga* would be effective in enhancing the emotional stability of senior secondary school students.

5) *Jyoti Kendra Preksha* would be effective in enhancing emotional stability of senior secondary school students.

6) *Svasa Preksha* would be effective in enhancing emotional stability of senior secondary school students.

7) There would be differences in effectiveness of *Kayotsarga, Jyoti Kendra Preksha and Svasa Preksha* in reducing academic stress of senior secondary school students.

8) There would be differences in effectiveness of *Kayotsarga, Jyoti Kendra Preksha and Svasa Preksha* in the enhancing emotional stability of senior secondary school students.
3.5 Operational Definitions

3.5.1 Preksha Meditation

The word Preksha is derived from the root ‘iksha’, which means 'to see'. When the prefix ‘Pra’ is added, it becomes Pra+iksha= preksha, which means 'to perceive carefully and profoundly'. Here, 'seeing' does not mean external vision, but careful concentration on subtle consciousness by mental insight. Preksha Dhyana is the system of meditation engaging one's mind fully in the perception of subtle internal and innate phenomena of consciousness.

Out of the techniques of Preksha Meditation, three techniques namely: Kayotsarga, Svasa Preksha and Jyoti Kendra Preksha have been taken up in the present study.

a) Kayotsarga (Total relaxation with self-awareness): Kayotsarga literally means ‘abandonment of the body coupled with high degree of conscious awareness’. In practice, it is conscious suspension of all gross movements of the body resulting in relaxation of the skeletal muscles and drastic reduction of metabolic activities. This physical condition results in relieving mental tensions and is an essential precondition for meditation practice.

b) Svasa Preksha (Perception of Breathing): It is impossible to channelize and concentrate the mental functioning if the breath is not adequately regulated. Breath is essential for metabolic functioning of the body. It is also linked with conscious mind. Since mind is ever restless, it is extremely difficult to steady the wandering mind directly. An efficient and easy way to control mental activity is concentrated perception of breath-Svasa Preksa. Svasa Preksa can be practiced in two ways viz. dirgha svasa and samavrtti svasa.

i. Dirgha Svasa Preksa: Dirgha svasa is slow and complete exhalation and deep inhalation. The first step in this process is to
regulate the rate of breathing by reducing the number of breaths per minute.

ii. **Samavrtti Svasa Preksa**: In **Samavrtti Svasa Preksa** breath is exhaled through one (say, left) nostril and inhaled through the other (right). Then exhaling through the right, it is inhaled through the left. Throughout the process, the perceptive mind is closely linked with the breath.

c) **Jyoti Kendra Preksha** (Centre of Enlightenment): As a matter of fact **Jyoti Kendra**, the Centre of Enlightenment, is called the third eye. By meditating on this centre, wrath dissolves very soon. Objective of **Jyoti Kendra Preksha** is pacification of negative emotions and attainment of peace and inner harmony. The purification of this centre resolves many of our physical and psychological problems.

### 3.5.2 Academic Stress

Academic stress is an important factor responsible for low academic achievement. It may be expressed in form of low academic scores, anxiety, loss of interest in studies, intolerance, gloomy mood, panic, headaches etc. In the present study Bisht Battery of Stress Scales developed by **Bisht (1987)** for the measurement of Academic Stress has been selected, which is one among 13 scales. Percentile-norms were established for scale of the battery. The corresponding grouping of high, average and low stress in terms of percentile for interpretation is:

<table>
<thead>
<tr>
<th>Stress Level</th>
<th>Percentile Range</th>
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<tbody>
<tr>
<td>Low stress</td>
<td>$P_{30}$ or below</td>
</tr>
<tr>
<td>Average stress</td>
<td>$P_{31}$ to $P_{69}$</td>
</tr>
<tr>
<td>High stress</td>
<td>$P_{70}$ or above</td>
</tr>
</tbody>
</table>

In this study adolescents between age group of 15 to 17 years with high stress were taken.
3.5.3 Emotional Stability

Emotional stability refers to dynamic integration and emotional maturity as opposed to uncontrolled, disorganized, general emotionality. Individual scoring low on emotional stability questionnaire is easily annoyed by things and people. He is generally dissatisfied with the world situation, his family, the restriction in life and his own health etc. and feels unhappy to cope with life and displays generalized neurotic responses in the form of phobias, psychosomatic disturbances, sleep disturbances and hysterical and obsessive behavior.

However, individual scoring high on ESQ are emotionally mature, stable, calm and composed. They show high resistance in avoiding stress, tension, and difficulties etc. Those who score 55 and above in ESQ are emotionally stable.

In this study adolescents between age group of 15 to 17 years with low emotional stability were taken.

3.6 Research Design

A multiple group, pre-test and post-test, control group, randomized subjects, experimental design has been employed to conduct the present study. Subjects were assigned randomly different experimental and control groups. Further, treatments were randomly assigned to different experimental groups. Different Preksha Meditation techniques i.e. Kyotsarga, Jyoti kender Preksha and Svasa Preksha were independent variable and academic stress along with emotional stability were dependent variables. Subjects of three experimental groups were provided training through three different PM techniques i.e. Kyotsarga, Jyoti kender Preksha and Svasa Preksha for four months. Whereas no training was given to control group. Pictorial form of the design has been given in Figure 3.

Grinnell (1993) indicates that a research design is a blue print or detailed plan for how a research study is to be conducted- operationalizing a
variable so they can be measured, selecting a sample of interest to study, collecting data to be used as a basis for testing hypothesis and analyzing the results.

Fig.3. Pictorial representation of Research Design

<table>
<thead>
<tr>
<th>Research Design</th>
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<tbody>
<tr>
<td>Experimental Groups</td>
</tr>
<tr>
<td>Kyotsarga (n=25)</td>
</tr>
<tr>
<td>Control Group (n=25)</td>
</tr>
</tbody>
</table>

Intervention
Three Treatments i.e One for each of the three Treatment Groups (Four months, 30 minutes daily)

Pre-test and Post-test (Parameters)
A. Bisht Battery of Stress Scale by Abha Rani (1987)
B. Raven’s Standard Progressive Matrices (1988)

3.7 Variables
3.7.1 Independent Variables
Independent variables are those that the researcher has control over. This "control" may involve manipulating existing variables (e.g., modifying existing methods of instruction) or introducing new variables (e.g., adopting a
totally new method for some sections of a class) in the research setting. Independent variables in this research were:

a) Kayotsarga  
b) Svasa Preksha  
c) Jyoti Kendra Preksha

3.7.2 Dependent Variables

Dependent variables show the effect of manipulating or introducing the independent variables. The variation in the dependent variable depends on the variation in the independent variable. Dependent variables in this research were:

a) Academic stress  
b) Emotional stability

3.8 Sample

a) Initial sample: In the initial sample, five hundreds adolescent female students in the age group of 15 to 17 years in Govt. Girls Senior Secondary School, Sector-20B, Chandigarh were administered Bisht Battery of Stress Scales by Abha Rani(1987), Ravens Standard Progressive Matrices(1988), Emotional Stability Questionnaire by PSY-COM services (1995). Those subjects who did not provide complete information in the test administered to them were not included in the sample. Hence, in the initial sample the students whose tests were complete in every respect were included.

b) Final sample: On the basis of test score, 100 female students who fulfilled the following criteria were included in the final sample:

a) in age group of 15-17 years,  
b) with average intelligence,  
c) with high academic stress score i.e. P_{70} or above,  
d) with low emotional stability score i.e. 55 and below were
included in the present sample.

Final sample was divided into four groups; three treatment and one control group.

3.9 Experimental Intervention

Separate instructions were given to the experimental groups along with pre-conditions of Preksha Meditation given as under:

3.9.1 Pre-conditions for Practicing Preksha Meditation

Three pre-conditions i.e. posture, mudra and mahaprana dhvani were observed for practicing PM. The following instructions were given to these three pre-conditions separately:

a) **Posture**: Sit in an appropriate posture. Posture is an important feature for the successful practice of meditation. You can sit either in a simple posture or a lotus posture. If this is not possible you can sit in a chair keeping the back straight in a straight line.

b) **Mudra**: Adopt a mudra with eyes closed. Mudra is the position of the practitioner's hand. Any one of the following Mudras can be adopted depending on the sitting posture:

   i. Keeping the palms facing upwards, place the left hand below the right hand keeping the thumbs together.

   ii. Place the right hand on right knee and left hand on the left knee, both palm facing together, index fingers touching the roots of thumbs with a slight pressure in the contact, the other fingers being kept straight.

c) **Mahaprana Dhvani**: Recite Mahaprana Dhvani while you inhale deeply concentrating your attention in your head. Keep your lips together softly and produce a humming sound without any interruption for as long as possible.
Students were well informed regarding the anatomical location of various internal organs with the help of charts and diagrams so that they could have followed the instructions during practice.

3.9.2 Instructions given to the subjects of EG1 who have been provided training in Kayotsarga.

“Starting with the big toe of your right foot, concentrate your mind on it. Allow your mind to spread throughout the big toe. Suggest the muscles and nerves to relax. Relax..... Relax..... Relax.....Experience that they are relaxing. Experience that they have become relaxed. In the same way, attain relaxation of the other parts of the right limb--the other toes, sole, heel, ankle, upper part of the foot, calf-muscles, knee, thigh, up to the hip-joint.

Researcher conducting the practice session of Kyotsarga

In the same way relax the left limb up to the hip-joint. Experience that the whole of the lower portion of the body has become completely relaxed.

Now achieve the relaxation of the middle portion of the body from the waist up to the neck. Concentrate your mind on each part one by one starting with the lower abdomen, relax the front, the back, the right side, the left side, the outside and the inside of your lower abdomen. Similarly relax the upper abdomen-- the front, the back, the right side, the left side, the outside and the
inside of your upper abdomen. Now through your navel enter the abdominal cavity and relax the large intestine, the small intestine, the kidneys, the spleen, the liver, the pancreas, the stomach and the diaphragm. Use auto-suggestion and achieve relaxation. Then concentrate your mind on the chest and relax the entire rib-cage. Beginning with the lowest rib, relax each and every rib in turn. Relax the front ribs, the back ribs, the right ribs and the left ribs. Now enter the chest and relax the right lung, the left lung and the heart by auto-suggestion. (Those who have got any heart trouble should pause here for a few minutes and by auto-suggestion slow down the heart to remove stress.)

Now achieve the relaxation of the neck muscles in the front and in the back. Then concentrate your mind on both the hands and arms one by one; starting from the thumb, relax the fingers, the palm, the wrist, the lower arm, the elbow, the upper arm and the shoulder. Experience that the whole of the middle portion of your body has become completely relaxed.

Now achieve the relaxation of the upper portion of body from throat up to the head. Here we have come to a bit more difficult part of the exercise. So far you were relaxing large muscles which respond quickly to your suggestion. But now we have to relax a large number of small and tiny muscles which are difficult to relax. First unclench your teeth and unlock your jaws and let your tongue go limp. Keep your lips softly closed. Now relax all the facial muscles; beginning with the chin, relax the lips, the inner portion of the mouth including the teeth, the gums, the palate and the tongue; then relax the cheeks, the nose, the ears and the temples, both the eyes, the forehead and the scalp, through auto-suggestion. Experience that the whole of your upper portion of the body has become completely relaxed.

Again allow your mind to travel from the head up to the feet and from the feet up to the head; this time rather quickly and see that there is no tension anywhere in the body. Experience that the whole body from the feet up to the
head has become completely relaxed. Maintain the posture of Kayotsarga throughout the meditation session. Try to keep your body completely steady and motionless.

Now practice inner silence at least for five minutes through relaxation of the vocal cords (voice box). Concentrate your mind on the voice box inside the throat and completely relax it. Observe complete inner silence. There should be no vibrations in the voice box.”

3.9.3 Instructions given to the subject of EG2 who have been provided training in Jyoti Kendra Preksha

As Kayotsarga is the pre-condition of each P M technique, subjects were instructed to practice Kayotsraga for five minutes and then were given following instructions regarding Jyoti Kendra Preksha:

Researcher conducting the session of Jyoti Kendra Preksha

“Concentrate your mind on the Centre of Enlightenment, situated in the middle of your forehead. Allow your mind to penetrate inside and perceive bright white colour there. You may visualize as if the bright white light of the full moon is spreading throughout the portion or visualize the bright white
colours of the snow or any other white things. Practice concentrated visualization of bright white colour on the centre of enlightenment. Perceiving the bright white color, experience two auto- suggestions that all your passions and emotions are being pacified. All your excitations are subsiding. Your anger is waning away.

Subjects practicing *Jyoti Kendra Preksha*

Now allow your mind to spread throughout the whole portion of your forehead and perceive the bright white colour there. Visualize that the particles of bright white light are permitting the whole portion of the forehead, covering the emotional area in the frontal lobe of the brain. Continuously perceive bright light colour and experience complete tranquility, complete mental peace and bliss. Conclude the meditation session with two or three long breaths.”

3.9.4 Instructions given to the subjects of EG3 who have been provided training in *Svasa Preksha*.

As *Kayotsarga* is the precondititon of each P M technique, subjects were instructed to practice *Kayotsraga* for 5 minutes and then were given following instructions regarding *Svasa Preksha*:
i) **Dirgha Svasa Preksha**

“Regulate your breathing; make it slow, deep and rhythmic. Let the vibrations of each breath reach your navel. Allow your abdominal muscles to expand during inhalation and contract during exhalation.

Now concentrate your mind fully on your navel. Practice deep, slow and rhythmic breathing, by allowing each breath to take the same time. Perceive each inhalation and exhalation through the expansion and contraction of the abdominal muscles accompanying each inhalation and exhalation respectively.

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**Practice session of Svasa Preksha being conducted by researcher**

Continuing the slow, deep and rhythmic breathing, now shift your attention from the navel and focus it inside the nostrils at the junction of both the nostrils. Perceive each incoming and outgoing breath. Remain fully aware of each and every breath.

Continuously practice slow, long and rhythmic breathing--inhale and exhale each breath while remaining fully aware of it. Fully occupy your mind in perception of breathing. If one is distracted by any thought, do not try to stop it forcefully, but also perceive it, and then again start perceiving...
your breath. If the distraction is frequent, you may hold your breath for a few seconds without causing any discomfort. Maintain the continuity of the awareness of breathing. Merely perceive it without like and dislike”.

ii) Samavrtti Svasa Preksha

“In the practice of breathing through alternate nostrils, you have to inhale through one nostril and exhale through the other, then inhale through the same and exhale through the other. Try to accomplish the alternation by exercising your will-power. But in the beginning you may make use of finger and thumb of the right hand by placing the right thumb against the right nostril and the ring finger of the right hand against the left nostril and resting the middle and index fingers on the forehead. Now, remove alternately the thumb and ring finger for opening the path of breath through the right and the left nostril.

Regulate your breathing; make it slow, deep and rhythmic. Concentrate your mind inside your nostrils, practice breathing through alternate nostrils. Inhale through the right nostril and exhale through the left one. Now inhale through the left nostril and exhale through the right one; this completes one cycle. Repeat the same exercise again and again continuing the rhythmic breathing. Perceive each inhalation and exhalation by concentrating the mind in alternate nostrils. Let your mind and breath go hand in hand. No thinking, no memory of the past, no imagination of future. Simply perceive. the right nostril and hold the breath inside, exhale through the left nostril and hold the breath outside; again inhale through the left nostril and hold the breath inside and exhale Continuously the mind and breath should accompany each other. While you are breathing in, let your attention follow the breath inside. While you are breathing out, let your attention follow it outside.

Now, practice the perception of breathing through alternate nostrils together with holding the breath intermittently. Concentrate your mind inside the nostrils. Inhale through the right nostril and hold the breath outside. In this way, practice holding of breathe four times during one complete cycle.
Continuously remain aware of each exhalation and inhalation. You may hold the breath only for a few seconds without causing any discomfort. Repeat the same exercise for several rounds. Let the mind and breath go hand in hand”.

Subjects practising Samvritti Svasa Preksha

Before starting actual meditation session, it was made sure that subjects were sitting in pollution free and peaceful environment. Also, a reasonable amount of space was around them so that subjects are not disturbed.

The procedure of experimental intervention was followed as per details given in the monograph titled, Preksha Dhyana: Prayoga Padhatti by Mahapragya(2002).

3.10 Tools Used

After clear conceptualization of the various aspects of the problem under investigation, a thorough search was made to find out the most appropriate tools. Following three tools were used in the present study:

1) Bisht Battery of Stress Scale by Abha Rani (1987)
2) Raven’s Standard Progressive Matrices (1988)
Bisht Battery of Stress Scale (BBSS)

The BBSS (Appendix-I) was developed and standardized by Bisht (1987) for the measurement of thirteen types of stresses. Out of 13 scales, “Scale of Academic Stress” was selected for the present study. The scale of academic stress contains 80 items. For development and standardization purpose, six approaches were adopted for the scales of battery, viz methodological approach, theoretical approach, rational approach, static approach, empirical approach and normative approach. For developing the battery of stress scales, idiographic method was taken because this is widely used method of measuring stress. It measures stress through subjective feelings of distress or interpretative perceptual response. Stress was conceptualized as having four components i.e. frustration, conflict, pressure and anxiety.

The inventories for different type of stresses were prepared in Hindi. The items were distributed over four components of different types of stress.

**i) Scoring:** For scoring, the five point scale is selected because it takes into account the average category too. The two continua are taken: one is of frequency i.e. Always (a), Often (O), Sometimes (S), Rarely (R) and Never (N). The other is of quantity along with which items are located in terms of quantity. The other is of very much (VM), Much (M), So So (SS), Little (L) and not at all (NA).

The positive items of the scale of academic stress are:
1, 2, 3, 4, 5, 8, 9, 11, 13, 17, 18, 20, 22, 24, 25, 26, 27, 28, 30, 31, 32, 34, 35, 36, 37, 38, 40, 41, 43, 44, 45, 46, 48, 50, 52, 53, 54, 55, 56, 57, 58, 59, 60, 61, 62, 64, 65, 68, 70, 72, 73, 76, 77, 79 and 80. Rest of the items are negative statements and are scored in an inverse manner. There are 26 items of Academic frustrations and these are 2, 5, 7, 15, 18, 20, 22, 25, 33, 39, 44, 45, 46, 50, 52, 55, 56, 57, 62, 63, 67, 68, 69, 72, 75, and 77. Number of items of Academic Conflict is 15 and these are: 8, 11, 16, 21, 24, 28, 37, 41, 42, 43, 47, 54, 59, 71, 79. Number of items of Academic Pressure is 24 and the items
number are 3, 4, 6, 10, 14, 23, 26, 29, 31, 32, 34, 35, 38, 53, 58, 60, 61, 64, 70, 73, 74, 76, 78. Further, there are 15 items of Academic Anxiety and item numbers include 9, 12, 13, 17, 19, 27, 30, 36, 40, 48, 49, 51, 65, 66, 80. The total score on academic stress is obtained by adding the score of these four areas. Percentile-norms are established for the scales of the battery. The corresponding grouping of low, average and high stress in terms of percentile for interpretation is

a) Low Stress P_{30} or below
b) Average stress P_{31} to P_{69}
c) High Stress P_{70} or above

ii) Reliability of the scale: Normative data were collected from a sample of 300 students of class IX and X in the age group from 13 + to 17 years. Reliability of the scales of the battery was calculated in three ways for knowing:

a) Dependability i.e. short term test rated correlation
b) Stability i.e. retest after a longer interval and
c) Internal consistency i.e. split-half correlation

Dependability, stability and internal consistency coefficients for the scale of academic stress were 0.87, 0.82 and 0.88 respectively. Internal consistency coefficients (correlation between total and component scores) were 0.37, 0.52, 0.39 and 0.58 for frustration, conflict, pressure and anxiety respectively. All these correlation were found significant at 0.05 level of confidence.

iii) Validity: Content validity and item validity were determined. Construct validity (discriminability) was estimated in two fold fashion. The first type tested if the construct measured differentiated students on some related construct. The second type tested if the construct measured by the scale was not related to the construct predicted by the theory. For this, internal evaluation was taken. In both, the construct validity was affirmed. The method of selecting item support the fact of item validity.
Raven’s Standard Progressive Matrices (SPM)

Raven’s Standard Progressive Matrices (1988) is used internationally and consists of 5 sets (A, B, C, D and E) which are meant to test the person’s capacity to apprehend meaningless figures, seeing relation between them, completing each system of relation presenting and developing a systematic method of reasoning. It is non-verbal test of mental maturity.

The scale consists of 60 problems, i.e. twelve in each of five sets. Each problem consists of an incomplete figure or an incomplete design with various alternative responses. The subject is to select the best missing piece to complete the figure or design.

The scale can be used for children as well as adults of average or more than average intellectual ability. A person’s total score furnishes an index of his intellectual capacity. It has a test retest reliability, which varies with age from 0.83 to 0.93 with the higher values being associated with younger subjects. It correlates 0.86 with the Terman Merrill Scale and has ‘g’ saturation of 0.82.

Under normal condition, after maturity is reached, the score on the vocabulary test tend to remain constant, at least up to the age of 65 years. Scores on the Matrices test reach their maximum somewhere about the age of 14, remain constant for about 10 years, then begin to decline slowly, but with remarkable uniformity. Physical or mental illness does not seriously affect the test retest reliability of SPM. In the relatively, few cases where it does, the cause has usually been traced to temporary toxic effect or to permanent brain damage.

The concurrent and predictive validities of SPM vary with age, possibly sex, and homogeneity of sample, the method of assessment of criterion to which the test was related and the reliabilities of the test and criterion measured in the context considered. The external criterion commonly adopted in the predictive validity investigation is scholastic achievement assessed sometime after the administration of SPM. Validity
coefficients reported in studies with English and Non English speaking children range up to +0.70.

Scoring of the test is very easy and requires the use of only one scoring stencil. The raw scores can be used as such or converted into percentiles. The result obtained in the form of percentile scores can be interpreted into five broad categories: ‘intellectually average’, ‘definitely above average in intellectual capacity’, ‘intellectually average’, ‘definitely below average in intellectual capacity’ and intellectually impaired’.

Emotional Stability Questionnaire (ESQ)

The Emotional Stability Questionnaire (Appendix-II) have been designed and developed by PSY-COM SERVICES in 1995. Since this scale is a power test (i.e. there is no time limit), the average subject is approximately 15-20 minutes to complete the test in full. The Emotional Stability scale has been designed for self administration with little supervision required. It has only 60 items, each of the items in the questionnaire has three choices from which the subject may select one answer. Generally, the last response is an “uncertain”, or “somewhat”, “undecided” or “can’t say” type of category. The instructions specifically urge the subject not to use this category very frequently, and keep it as last resort, when both (A) and (B) are not suitable. All the items were carefully screened and several criteria were considered in the final selection of items.

i) Scoring: The scoring procedure in ESQ is quite objective and simple. Transparent stencil scoring key is available for this purpose. Before starting the scoring procedure, it should be ensured that subject has answered all the questions in the booklet. If more than 6 questions are skipped, the test is invalid and should not be scored. This should, however, be checked and corrected during administration of the test.

ii) Reliability: The reliability of ESQ i.e. the agreement of the dimensions scores with itself under some change of conditions are calculated in all relevant ways. For calculating the split half reliability, a trial run of the
present scale was made. Reliability coefficients were computed for over one thousand individuals, using Spearman Brown formula. The scale was divided into two parts using odd-even method. Care was taken to ensure that each half contains equal number of questions for each dimension and validity indicator. The coefficient of correlation found between two halves was 0.87. The test-retest reliability was also calculated for the present scale, by calculating the coefficient of correlation between two sets of scores of the same individual on the same scale at different time intervals. The test reliability after seven days intervals was found to be .78 and after one month interval it was .74.

iii) Validity: An index of validity shows the degree to which a test measures what it purports to measure, when compared with the criteria. The concentration and use of a test implies that the instrument has been evaluated against criteria regarded as the best evidence of dimensions to be measured by the test. Therefore, selection of satisfactory validation criteria and demonstration of an appropriate degree of validity are fundamental in any psychological testing.

The first and most important essential quality of any valid test is that it should be highly reliable. The present scale shows fairly high reliability coefficients even after one month time interval. The test that yields in consistent results i.e., low reliability coefficients, cannot correlate well with a measure of another variable, in this case the criterion. It should be clear, however, that the validity is in fact the evaluation of the extent to which a device estimates an individual’s status at the time the test was administered. The validity of a test itself is meant to be concept validity, i.e. the test items are chosen as being a good measure of the emotional stability dimensions.

3.11 Procedure of Data Collection

The data of the present study were collected in four phases given as under:

Phase I: Screening: The process was started 15th July 2007. In the first phase 500 female adolescent students in the age group of 15-17 years from
Government Girls Senior Secondary School, Sector 20-B Chandigarh were taken. They were administered Raven’s Standard Progressive Matrices (1988), Bisht Battery of Stress Scale by Abha Rani (1987) and Emotional Stability Questionnaire by PSY-COM services (1995). On the basis of test score those 100 subjects who were having average intelligence, high academic stress and low emotional stability were selected for final sample. Out of 100 subjects who were included in final sample, 25 subjects were randomly assigned to four groups (3 experimental and one control group).

Further, treatments were randomly assigned to different groups. Homogeneity of the final sample was tested with the help of ANOVA. The summary of ANOVA is given in the Table 1.

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<th></th>
<th>Sum of Squares</th>
<th>df</th>
<th>Mean Squares</th>
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<tr>
<td>ES</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Between Groups</td>
<td>67.79</td>
<td>3</td>
<td>22.597</td>
<td>1902</td>
<td>0.134</td>
</tr>
<tr>
<td>Within Groups</td>
<td>1140.4</td>
<td>96</td>
<td>11.879</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Total</td>
<td>1208.19</td>
<td>99</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Table 1

**Phase II: Orientation:** In the second phase, the subjects were given an orientation by the researcher. She explained in detail the purpose of the present study and procedure of the experiment. She assured them that their score would be used for the research purpose only. The subjects were told the advantage of PM and demonstrated to them. The subjects were not allowed to undergo any other treatment or systematic training programme during the
intervention period. They were asked to be punctual and regular throughout the experimental duration.

**Phase III: Intervention:** The experimental treatment comprised *Kyotsarga, Jyoti Kendra Prakesha* and *Svasa Preksha*. All the experimental groups i.e. EG1, EG2, and EG3 were given regular training in meditation for 30 minutes daily for four months.

**Phase IV: Post-test:** In the fourth phase, Abha Rani Bisht battery of stress Scale by *Abha Rani (1987)*, *Raven’s Standard Matrices (1988)* and Emotional Stability Questionnaire by *PSY-COM services (1995)* were re-administered to find out if there were any significant differences in the scores of all the students because of treatment provided to them.

### 3.12 Statistical Analysis

Following statistical techniques were employed for testing research hypotheses:

1. Descriptive statistics namely, Mean and SD for all variables were obtained.
2. Analysis of variance (ANOVA) was worked out to test homogeneity of the experimental and control groups and to find out variance between treatment techniques.
3. ‘t’ test was applied to test the effectiveness of different techniques of PM.
4. Graphic representation was done wherever necessary.
5. The level of significance was taken at 0.05 or less than 0.05 and it has been shown in the tables at p<0.05 (*) or p< 0.01 (**).
Table 2: The variables (Vs) with their corresponding codes used for the purpose of experimental study.

<table>
<thead>
<tr>
<th>Variable</th>
<th>Code</th>
</tr>
</thead>
<tbody>
<tr>
<td>Academic Anxiety</td>
<td>AA</td>
</tr>
<tr>
<td>Academic Conflict</td>
<td>AC</td>
</tr>
<tr>
<td>Academic Frustration</td>
<td>AF</td>
</tr>
<tr>
<td>Academic Pressure</td>
<td>AP</td>
</tr>
<tr>
<td>Academic Stress</td>
<td>AS</td>
</tr>
<tr>
<td>Bisht Battery of Stress Scale</td>
<td>BBSS</td>
</tr>
<tr>
<td>Control Group</td>
<td>CG</td>
</tr>
<tr>
<td>Emotional Stability Questionnaire</td>
<td>ESQ</td>
</tr>
<tr>
<td>Experimental Group 1</td>
<td>EG 1</td>
</tr>
<tr>
<td>Experimental Group 2</td>
<td>EG 2</td>
</tr>
<tr>
<td>Experimental Group 3</td>
<td>EG 3</td>
</tr>
<tr>
<td>Preksha Meditation</td>
<td>PM</td>
</tr>
<tr>
<td>Standard Progressive Matrices</td>
<td>SPM</td>
</tr>
<tr>
<td>Transcendental Meditation</td>
<td>TM</td>
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</table>