Research Methodology:

The selection of the suitable tools or instruments is a major work to meet the objectives of proposed work and to measure the creative potential of scheduled caste students in relation to their Socio-Demographic variables. To collect the data for present study following tools were applied:

- Language Creativity Test By Dr S P Malhotra and Sucheta Kumary (1989).
- Scientific Creativity Test by Dr K S Mrshra (1986)
- Non-Verbal Creativity Test By Baqr Mahdi (1971)
- Personal Inventory (self designed with the help of supervisor)

Description of Instruments Used

**Language Creativity Test:**

The Language creativity test (LCT) of creative potential planned to measure the individual’s ability to deal with language contest in a creative manner. First four types of activities are selected to use after the contentment of supervisor out of five namely: i) Plot building ii) Dialogue writing, iii) Poetic Diction, iv) and Descriptive style. The basic idea behind this classification is that in creative writing, words employed and ideas expressed are unique in their own way and the students can opt for any stream of writing viz. poetry, lyric, story, drama essay or letter writing as their medium of expression. The specific time and space are provided to give qualitative and quantitative responses. A brief and specific outline of all the five sub-tests and their respective items are given in the proceeding captions:

**i) Plot Building:** In this sub-test Items are based on Guilford’s (1952) Multiple Story Plots. Here in a hypothetical situation is presented for this subject’s encouraged giving free imagination. Following types of items are included in it:

a) Story writing on a given proverb ‘**Budhi Hi Shresth Bal Hai**’ where the respondents are required to imagine a small plot and represent the significance of unity in the shape of a story. Five minutes has been provided to make a story on said proverb. Through this item the ideational fluency, Originality and elaboration were assessed.

b) **Story on a given situation is the item where the students are required to complete the story projecting new ideas and thoughts.** They have to reflect their thought processes so as to complete the story in a unique manner. Ten minutes has been provided to make a story on
said situation. Through this item the ideational fluency, Originality and elaboration were assessed.

c) **Story construction on a given title ‘Kusangati Ka Phal’** is an item where the students are asked to design a story corresponding to the nature of the title given. They are instructed to write an original story. Five minutes has been provided to make a story on said proverb. Through this item the ideational fluency, Originality and elaboration were assessed.

d) **Story with both endings happy as well as tragic.** In this item, the subjects are asked to write stories on said situation. The idea behind this item is to test the imagination of students on the theme in both ways and end I in two different manners. Ten minutes has been provided to make a story on said situation. Through this item the ideational fluency, Originality and elaboration were assessed.

e) **Story on ‘If toy would speak’ students were asked to imagine and construct a story.** This item also measures ideational fluency, originality and elaboration. The time allotted for the item is 5 minutes.

f) **Modernizing the classical theme.** In this item a familiar classical theme ‘Jaisa Karoge Vaisa Bharoge’ is provided and the subjects are to modernize the theme in the contest of present social systems and bring out elements of satire to make it unique. The item intends to measure ideational fluency, originality and elaboration. The time allotted for it is 10 minutes.

g) **Suggesting titles to a given story in this item student were asked to suggest as many titles as they can on given story.** The unique and novel titles get additional credit for original thinking. Five minutes has been provided to make a story on said proverb. Through this item the ideational fluency, Originality and elaboration were assessed.

**ii) Dialogue Writing:** In This category students were asked to write dialogue on given sub-test items. This sub-test is designed on the basis of Guilford’s (1952) Multiple Emotional Expression and Multiple Social Problems wherein the subject writes many different things that a person might say when he is feeling a given emotion. There are three items in it the details of which are given below:

a) **Suggesting the title to given dialogue:** here presents witty situational dialogues between two members of a typical akin group. The subjects were asked to present as many titles as possible. The time allotted for it is 5 minutes and the factors tested are ideational fluency and originality.
b) **Writing dialogues on a given topic ‘lottery khul jane per’:** in this item subjects were asked to write dialogues on the title. The factors tested in it are ideational fluency, originality and elaborations and the time allotted is 5 minutes.

c) **Writing dialogues on the given situation:** Here again the students are asked to write dialogues but instead of the topic a situation is given. The factors tested are ideational fluency, originality and elaboration and the time allotted is 5 minutes.

**iii) Poetic Diction:** in this section respondents were asked to compose poems on given words, title and situation, the pattern of the sub-test is based on Guilford’s (1952). Extensional Fluency and Word-Pair Revision. There are three items in it.

a) **Writing a poem on given topic.** Here in this item subjects are given a topic and they are required to compose a poem in any form and size they like. The time allotted for it is 10 minutes and factors tested are ideational fluency and originality.

b) **Writing Parody:** In this item subjects are given two lines from a popular poem, and they are required to write a parody bringing in new association. In other words, subjects have to rewrite the given two lines with new ideas projecting the element of humor and wit. Ten minutes has been provided to make a story on said situation. Through this item the, Originality and was assessed.

c) **Writing a poem from given words:** The subjects are provided with four rhyming words and are expected to compose a poem in any form they like. The time allotted for the item is 10 minutes and tests factors of ideational fluency and originality.

**iv) Descriptive style:** This sub-test has items based on description developed on the pattern of Guilford’s (1952) Controlled associations. The purpose of this sub-test is to evaluate the descriptive style of the student. It includes only four items.

a) **Based on observation:** In this item the subject were asked to give his thoughts on provided topic ‘An Evening Scene’. The unusual similes and beautiful descriptive patterns are rated high. For this 5 minutes allowed .The factors tested are ideational fluency, flexibility, originality, and elaboration..

b) **Based on Emotional Experience** ‘Encourage’ . A topic is provided and the subject is asked to use metaphors and similes while describing it. The unusual analogies are given higher score. The factors tested are ideational fluency, flexibility, originality and elaboration. The time allotted for this is 5 minutes.
c) **Based on imagination** ‘what would happen if I could fly like a bird’. The subjects were asked to give his imaginary thoughts on given title. The factors tested through this item are ideational fluency, originality and elaboration. The time allotted for this item is 5 minutes.

d) **Based on comparison**: The subject is given a situation and he is required to describe the situation with respect to analogous situation. The item tests factors like ideational fluency, flexibility and elaboration. The time allotted for this is 10 minutes.

**Scoring Procedure**

Unlike objective tests, the nature of five sub-tests of Language Creativity Test is totally different. These tests do not warrant any single correct answer and it is expected that answers differ in nature, size and quality. So, it is not possible to employ ordinary stencil scoring system. Consequently, a new procedure of scoring has to be devised:

a) Each item of 1st category the ideational fluency, Originality and elaboration were assessed.

b) Each factor of 2nd category tested on ideational fluency and originality.

c) 1st item of 3rd category tested is ideational fluency and originality.

d) 2nd item of 3rd category, Originality and was assessed.

e) 3rd item of 3rd category, Originality and ideational fluency were assessed.

f) Each item of 4th category is tested on Fluency, Flexibility, elaboration and originality.

So, the scoring has to be made on the basis of the factors involved in the tests.

a) **FLUENCY**: the scoring for the factor of fluency was followed as per researches like Passi (1979), Mehdi (1973). The scores on this factor are obtained by counting the total number of acceptable responses. Each of the relevant word, each of the meaningful idea expressed by the respondent is given ‘one’ score. The total scores represent the attainment of the subject on the factor of fluency.

b) **Flexibility**: In case of the factor of Flexibility, the scoring procedure suggested by other researchers has been to count the ‘Shift in responses’, wherever there is and assign a score to each of the shifted responses. The total number of such shifted responses becomes the score of fluency for that single test item. The same procedure is followed in the present creativity test.

c) **Originality**: The responses in case of originality are assessed on a continuum of ‘commonness to uniqueness’ for which a five-point scale is developed assigning weight age from zero to four. The higher frequency of occurrence of a particular type of response in a
group is considered lower in uniqueness thus meriting lower score on originality and vice versa. The novel and unusual responses characterized by ‘rarity’ are scored higher on five-point scale. Similarly, most common idea would get zero and most unique idea is assigned a score of ‘four’

d) Elaboration: Elaboration mean ‘building upon given information to around a structure, to make it more detailed or to explore new direction. While writing a story, a poem, a dialogue or a description, the respondent perceives the design in such a way that it results in wholesomeness with necessary detail of information. While doing so, he makes efforts to bring in some novelty, with interesting ‘beginning’ ‘ending’ and flavors’. The nature of the requisite details under elaboration differs from each other depending upon the nature of each constituent. Hence, separate criteria of valuation are followed for each of the sub-test while scoring for the factor ‘Elaboration’

**Reliability of Language Creativity**

Both the factor score and the creative potential score reliabilities are considerably high ranging from .896 to .959 whereas the reliability of the non-verbal test is also high ranging from .932 to .947.

**Validity of Language Creativity**

The validity co-efficient for factor scores and the creative potential are high enough (significant) beyond .01 levels.

**Scientific Creativity**

The Scientific Creativity Test of creative potential designed to measure the individual’s ability to deal with scientific contest in a creative style. Following activities are used to assess the creative potential of respondents.

**ACTIVITY 1ST (CT)**

What would happen if there exists no carbon-di-oxide gas in the environment of earth?

What would happen if wings were transplanted to human body?

For this the subjects are asked to imagine as many consequences of these situations, and write down the responses on prescribed space. The test encourages free play imagination and originality. The time allotted 6minutes for each items.

**ACTIVITY 2nd (UUT)**

i) Uses of Beaker
ii) Uses of Needle

Students were asked to write a novel, matchless, interesting and unusual uses of these objects. The time allotted 6 minutes for each items.

**ACTIVITY 3** 

In this activity the model of parrot was shown to students and asked the students to give your suggestions to revise this model on prescribed space. 6 minutes time is allotted for this item.

**ACTIVITY 4**

Items of this activity test the curiosity of respondent’s. This test based on picture. After seeing the picture students were asked to think about this and give creative response. 6 minutes time is allotted for this item.

**ACTIVITY 5**

An item of this activity test tests the curiosity of respondent’s. This test is also based on picture. After seeing the picture students were asked to think about this and give the reasons, why this person is looking abnormal. 3 minutes time is allotted for this item.

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**Scoring Procedure**

Unlike objective tests, the nature of five sub-tests of Language Creativity Test is totally different. These tests do not warrant any single correct answer and it is expected that answers differ in nature, size and quality. So, it is not possible to employ ordinary stencil scoring system. Consequently, a new procedure of scoring has to be devised:

a) Each item of each category the ideational fluency, Originality and flexibility were assessed.

a) **Fluency:** Fluency deals with No of acceptable responses given by subjects each of the relevant response, by the respondent is given ‘one’ score. The total scores represent the attainment of the subject on the factor of fluency.

b) **Flexibility:** Fluency deals with the types of responses given by subjects each different types of response, by the respondent are given ‘one’ score.

c) **Originality:** The responses in case of originality are assessed on a continuum of ‘commonness to uniqueness’ for which manual’s directions adopted. The novel and unusual
responses characterized by ‘rarity’ are scored higher on five-point scale. Similarly, most common idea would get zero and most unique idea is assigned a score of ‘four’.

**Reliability of Scientific Creativity**

Both the factor score and the creative potential score reliabilities are considerably high ranging from .896 to .959 whereas the reliability of the non-verbal test is also high ranging from .932 to .947.

**Validity of Scientific Creativity**

The validity co-efficient for factor scores and creativity are high enough (significant) beyond .01 levels.

**Non-Verbal Creativity**

The non-verbal test of creative potential is intended to measure the individual’s ability to deal with figural contest in a creative manner. Three types of activities are used e.g. a) Picture construction,

b) Picture completion and
c) Triangles and Ellipsis.

The total time required for administering the test is 35 minutes in addition to the time necessary for giving instructions. The description is as follows.

i) **Picture Construction Activity**; this action presents the subject with two easy geometrical figures, a semi-circle and a rhombus and requires him to construct an elaborate picture using each figure as an integral part. Originality and elaboration are emphasized to make novel picture and give details as he thinks necessary. 10 minutes are allowed for the two tasks. The titles may also be scored for verbal elaboration and originality and the scores added to the verbal creativity score obtained on the verbal creativity test. The scoring of titles, however, is optional. Picture construction has long been used as a measure of child’s creative thinking. Torrance has used this test in his battery of creativity tests but in a slightly different manner. Here the subject is provided with a fixed structure, which he can convert into meaningful picture, by building on his own imagination.

ii) **Incomplete Figures Activity**; this activity consists of 10 line drawings which could be made into meaningful pictures of different objects. The subject is asked to make a picture, which
no one else in the group will be able to think of. The subject is given 15 minutes for the 10 items. Each item is scored for elaboration and originality.

iii) **Triangles and Ellipses Activity:** in this activity the subject is provided with 7 triangles and 7 ellipses and he is required to construct different meaningful pictures based on the two given stimuli. As the subject is here encouraged” to make multiple associations to single stimuli” the responses could be scored also for elaboration and originality. The author of the test suggests that the test user should confine him to elaboration and originality scoring alone. A total time of 10 minutes is allowed for this activity.

**Scoring Key of Non Verbal Creativity**

Each item is to be scored for elaboration and originality. Only the items in Activity III may be scored for flexibility also. Flexibility scoring however is optional.

1. **Elaboration:** Elaboration is represented by a person’s ability to add related details to the minimum and primary response to the stimulus figure. It is that response which gives essential meaning to the picture. The criterion for determining the primary and minimum response is what is most essential for identifying the response. The total elaboration score will consist of a score of one for the primary and minimum response plus one score each for all the additional new ideas.

2. **Originality:** The scoring for originality has already been discussed in the scoring of originality scores of the verbal test. The titles will be considered as verbal rather than non-verbal and are evaluated on the following basis
   - Zero scores only for giving the name of the object
   - One score for the description of the object
   - Two scores for imaginative and description
   - Three scores for abstract and appropriateness

**Reliability of the Non-Verbal Test**

Both the factor score and the creative potential score reliabilities are considerably high ranging from .896 to .959 whereas the reliability of the non-verbal test is also high ranging from .932 to .947.

**Validity**

The validity co-efficient for factor scores and the creative potential are high enough (significant) beyond .01 levels.
Personal Inventory

In order to collect the data related to the various socio-demographic variables of the scheduled caste students, the investigator has designed the personal inventory under the valuable suggestions of the guide. This personal inventory covers many aspects of Socio-Demographic variables such as

1. Gender i.e. Male and Female
2. Residential area i.e. Rural and Urban
3. Marital Status i.e. Married and Unmarried.
4. Type of Family i.e. Nuclear and Joint Family
5. Caste category SC 1 and SC 2
6. Mother Occupation House Wife and In service
7. Father Occupation, Laborer, Govt. Job, Pvt. Job and Business
8. Mother education Illiterate, upto10+2, Graduation, and Post Graduation
9. Father education Illiterate, upto10+2, Graduation, and Post Graduation
10. Academic stream Art, Science And Commerce
11. Family Income up to 10,000, 10,000 to 20,000 and Above 20,000 Per Month

Statistical Analysis:

In this proposed study, following statistical technique were used to test the hypothesis:

i) Mean and percentage were used for all variables i.e., Male, Female, Rural, Urban etc.

ii) T-test was used for two group variables and F-test was used for more than two group variables.