AIMS AND HYPOTHESES
NEED OF THE STUDY:

In India, the new scheme of 10+2+3 education at the school level has been introduced wherein the +2 stage offers academic and vocational streams for the students. The general stream of subjects upto the 10th grade is bifurcated into vocational and academic courses. If the unplanned vocational education continues as today, it may lead to more wastage and heavy burden on Indian economy!

Selecting a career can often be a long, difficult and unsettling experience. Some young people, few indeed in number, seem to know exactly what they want to do and that choice appears to fit them exactly. A much larger group of young people show no sign of being able to decide on a career or even a major field of interest. For one reason or another they avoid deciding, or even thinking about the way they would like to earn a living (Hopke, 1972). The need for guidance arises therefore to develop the potential ability of young people in order to make wise choices or wise decisions.

The changes brought in the world of work directly affect the career advisement of youth today. This is with respect to required levels of personal commitment and capability that the availability of employee in many sectors of
economy is in very short supply. There are so many choices, so many opportunities, so many directions that they bewilder and distract the young people (Drucker, 1969). Absence of proper attitudes and competencies to deal with career problems are adding to the unemployment figures in the country. Thus, for proper utilization of manpower resources, and to avoid large scale wastage and stagnation in the country, it is essential that capabilities, strengths and weaknesses are channelised in the proper direction from the beginning and the students are able to relate realistically to the requirements and opportunities of the working world. The implications for vocational counsellors would be to help the individual to cope with the rapid changes which are taking place and develop skills in the students, to make proper vocational decisions and adjustment in the world of work.

The present investigation would hold special significance for its bearing for educational guidance at the crucial period, that is +2 stage. In a country like India, where vocational guidance is in its infancy, study throwing light in the vocational development of adolescents would have useful implications. The availability of information concerning vocational maturity and various intellectual and personality factors affecting vocational behaviour and vocational development at different age and grade levels may enable educational
administrators to know more clearly whether the educational system is adequately fitted to make appropriate choice making tasks of its students, at appropriate times, or whether some revision is needed in educational practice. To attain this goal, more and more research derived knowledge of developmental sequence of vocationally mature behaviour and of the determinants of vocationally mature behaviour is needed.

AIMS OF THE STUDY:

Students undergo a variety of educational, vocational and personal experiences during the secondary and senior-secondary school years, which have repercussion for later development of vocationally mature behaviour. This study is likely to provide theoretical understanding into the pattern of vocational development of students especially during the exploratory stage.

The present endeavour is an attempt to study the intellectual (including intelligence and creativity) and personality variables as correlates and predictors of vocational maturity. Identification of correlates and predictors of vocational maturity may facilitate the diagnosis of student problems. The students could be helped to understand the role of various intellectual and personality factors which have a bearing on their acquiring maturity in career decision-making, and in better suitable adjustment during the
school years and later in their concerned vocational pursuits.

The various issues emanating from research trends (given earlier in chapter II) to which the present study has been directed are: whether positive and significant correlation exists between the measures of intelligence and vocational maturity of adolescents; whether positive and significant correlation exists between the measures of creativity and vocational maturity; whether personality characteristics are correlates of vocational maturity; whether in a multivariate analysis, different intellectual and personality factors combine in specific constellations to yield a global picture of correlates of vocational maturity; whether intellectual and personality variables serve as differential predictors of vocational maturity and whether intellectual and personality variables conjointly contribute better towards the prediction of vocational maturity than their separate contribution.

HYPOTHESES:

The ensuing portion is an exposition of hypotheses regarding intellectual (intelligence and creativity) and personality variables as correlates and predictors of vocational maturity. The presentation of hypotheses for different intellectual and personality variables as related to vocational maturity, will be done one by one with reference here only to the more salient work in the respective areas.
INTELLECTUAL VARIABLES AND VOCATIONAL MATURITY

I. INTELLIGENCE AND VOCATIONAL MATURITY

Super's proposition (1955) that "vocational development is a special aspect of general development", and that vocational development should be related to the intellectual development along with emotional, physical and social development, led some vocational psychologists (Holden, 1961; Chansky, 1965; Crites, 1965) to draw a parallel between the intellectual and vocational development. But when it came to empirical validation this synonymity could be retained only upto the early adolescence stage on account of the more and varied distinctions depicted by the respective growth curves during life stages from late adolescence onwards.

The process of vocational development speaks about various inputs in terms of certain psychological, biological, cultural and economic factors, resulting thereby in such outcomes as effective vocational behaviour, decision-making ability and vocational maturity.

Adolescents with higher intellectual ability tend to seek and prepare for jobs requiring higher level of intelligence. Intelligence is one factor which has great influence on individual vocational behaviour. Intelligence is potent variable in vocational maturity. Research findings of Super and Overstreet (1960), Smeda (1972), reported that the more intelligent an individual is, the more capable he is in
dealing with various vocational developmental tasks, hence more vocationally mature. The realization that a person's intelligence plays a significant part in the vocational level he is likely to attain, the training he is likely to be admitted to or succeed in, and the work he is able to perform, was supported and furthered by many psychologists.

Hypothesis I

Intelligence is positively and significantly correlated with measures of vocational maturity.

II. CREATIVITY AND VOCATIONAL MATURITY

It has frequently been proposed that creativity is a distinct aspect of intellectual functioning which is for all practical purposes independent of conventional intelligence. Guilford and Merrifield (1960), Getzels and Jackson (1962) and Torrance (1963) subscribe to this point of view. McNemar (1964) suggests that conventional intelligence adequately accounts for the kind of behaviour with which creativity theorists are concerned. This position has been supported by many studies reporting significant correlations between measures of creativity tests and intelligence tests (Ketcham and Kheiralla, 1962; Lovall and Shields, 1967; Ginsberg and Whittemore, 1968). Finally, Taylor (1964), Vernon (1964), and Yamamoto (1965) suggests that creativity and intelligence may become independent only after some critical IQ level has been exceeded. It implies that intelligence may be a necessary but not a significant condition for creativity.
Considering creativity as a distinct mode elicited by divergent thinking tests, and general intelligence as another intellective mode elicited by convergent thinking tests, it can be argued that despite the fact that creativity and intelligence are two distinguishable intellective modes yet both of them operate within the same intellectual functioning.

It has long been recognized that differences in creativity account for differences in aspirations for different vocational fields (MacKinnon, 1960). Creativity is a distinguishable characteristic of outstanding individuals in almost every vocational field. It may further be assumed that high and low creative individuals may differ not only in their choice of occupations but also in their level of aspirations. Highly creative students have been found to have more varied and sometimes even 'unconventional career choices' (Chambers, 1964). Also, most of the creative individuals in the world have attained distinction in one particular field only e.g. science, poetry or music (Torrance, 1971).

However, on the basis of research available in this direction, much of the conclusions drawn are in establishing relationship between creativity and vocational aspirations, vocational preferences, and vocational choices (Nichols and Holland, 1963; Getzels and Jackson, 1962; Schaeffer, 1970;
Torrance, 1973), but there is a relative paucity of any work on vocational maturity and creativity. An attempt into exploration of vocational maturity and creativity relationship is worthwhile.

Hypothesis II(i)

Verbal creativity is positively and significantly correlated with measures of vocational maturity.

Hypothesis II (ii)

Figural creativity is positively and significantly correlated with measures of vocational maturity.

III. PERSONALITY VARIABLES AND VOCATIONAL MATURITY

The unequivocal nature of empirical evidences pertaining to the intellectual correlates of vocational maturity also finds its reflection in conceptualization and measurement of vocational maturity. Virtually, Crites (1965) modified intellect dominated dimensions of vocational maturity as devised by Super et al. (1957) in their Career Pattern Study to include non-intellective dimensions in his construction of Career Maturity Inventory (1965).

As some psychologists put emphasis on intellective variables to the extent of their being the best correlates and predictors of vocational maturity, there are others who argue that vocational behaviour depends as much upon
intellective aspects as on personality characteristics. In this direction it seems relevant to quote Super (1957) who implicited the intimacy of vocational development and personal development and made explicit in his statement that work, like social life and intellectual activity, is one specific medium through which the total personality can manifest itself. Since personality indicates what an individual actually is in all his psycho-biological aspects and in relation to his environment, it is evident that vocational maturity is but an aspect of personality development. Personality of the individual affects his vocational interests just as it does his general interests and their development. Vocational maturity can best be gauged by studying the personality of the individual in context of the job world (Subramanium, 1962).

Guided by the theoretical generalizations of many psychologists (Roe, 1956; Holland, 1958; Super and Overstreet, 1960; Tiedeman and O'Hara, 1963; Crites, 1965), considerable research efforts directed in identifying the personality characteristics related to a person's vocational behaviour and ultimately to vocational maturity (Bohn, 1966; Bartlett, 1968; Chapin, 1975) have led to the conclusion that the development of vocational behaviour is analogous to the development of mature personality characteristics and that vocational adjustment (maturity) is linked to personality.
For establishing the relationship between vocational maturity and personality, Cattell's (1950) '16 P.F. Questionnaire' and 'High School Personality Questionnaire' have been used in quite a many studies (as reviewed in chapter II). In India, Chand (1979) employed 16 P.F. Questionnaire as a measure of personality for studying correlates of vocational maturity, and Agrawal (1981) used H.S.P.Q. for determining factors related to vocational maturity. These authors did obtain some definite trends to the relationship of vocational maturity with some of Cattell's personality factors, which will be discussed in the respective build up of hypotheses. In the present study Cattell's (1967) 'High School Personality Questionnaire' (measure of 14 personality factors) has been selected for finding out the relationship between personality and vocational maturity. Each personality trait of Cattell's H.S.P.Q. has been discussed separately in relation with vocational maturity (VM) and thus hypotheses for each personality factor in relation with vocational maturity have been formulated separately.

VM and Factor 'A' (Reserved vs. Warm - Hearted+)

A person who scores high (+) on personality factor 'A' tends to be good natured, easy-going, emotionally expressive and adaptable. He takes occupations dealing with people and socially impressive situations. Although Chand (1979) and
Josan (1983) reported that factor A is non-significant correlate of vocational maturity. Agrawal (1981) reported that persons scoring high on factor A were more vocationally mature.

**Hypothesis III (i)**

Personality factor A is positively and significantly correlated with measures of vocational maturity.

**VM and Factor 'B' (Low Intelligence vs. High Intelligence)**

As general intelligence (described earlier) has been found to be positively and significantly related to vocational maturity, evidences in support of factor B namely intelligence in relation to vocational maturity have also appeared. Chand (1979) and Josan (1983) found $B^+$ to be a significant correlate of vocational maturity.

**Hypothesis III (ii)**

Personality factor B is positively and significantly correlated with measures of vocational maturity.

**VM and Factor 'C' (Lower Ego-Strength vs. Higher Ego-Strength)**

Ego-strength is commonly regarded as a factor expressing the level of natural dynamic integration, emotional control and stability. Cattell's primary factor C (ego-strength) is one of the components of Eysenck's (1970) second-order factor of
Neuroticism; which Cattell has named as 'Anxiety vs. Adjustment'. Person scoring low i.e. C⁻ would tend to be more anxious and hence neurotic, whereas high scorer i.e. C⁺ would be more adjusted. Results of Josan's (1983) study exhibited that average scoring group on factor C proved better on all the measures of vocational maturity. Significant positive relationship of career choice attitudes with ego-strength was revealed in a study by Agrawal (1981).

**Hypothesis III (iii)**

Personality factor C is positively and significantly correlated with measures of vocational maturity.

**VM and Factor 'D' (Phlegmatic⁻ vs. Excitable⁺)**

The D⁺ individual reports that he is a restless sleeper, easily distracted from work by noise or intrinsic difficulty (Cattell, 1969). Results of Agrawal's study revealed factor D to be negatively and insignificantly related to vocational maturity. Josan (1983) found insignificant coefficient of correlation between factor D and vocational maturity.

**Hypothesis III (iv)**

Personality factor D is negatively and significantly correlated with measures of vocational maturity.
In either sex, high dominance may lead to disobedience, headstrong self-will, independence of creativity of mind, and sometimes, anti-social behaviour (Cattell, 1969). This primary factor 'E' is also a component of second-order factor of 'Exvia-Invia' (Eysenck, 1970) and the second-order factor of 'Dominance' on the 16 PF (Cattell, 1950) which measures the sociability aspect. Bartlett (1968) found dominance, positively related to career maturity. However, findings of Parlikar's (1973) study indicated that there was no relationship between 'Dominance-Submission' and vocational maturity at any grade level from VIII to X. In Chand's (1979) study it was found that assertive behaviour does not help a person to become vocationally more mature where as mild people tend to demonstrate higher vocational maturity. Josan's (1983) study supported these findings.

Hypothesis III (v)
Personality factor E is negatively and significantly correlated with vocational maturity measures.

Low scorer on factor F (F−), tends to be restrained, reticent, and introspective. He tends to be a sober and dependable person, on the other hand, the F+ person tends to be cheerful, talkative and carefree. Agrawal (1981) found
F to be significantly related to vocational maturity. Chand's (1979) study exhibited factor F to be an insignificant correlate of vocational maturity.

Hypothesis III (vi)

Personality factor F is negatively and significantly correlated with measures of vocational maturity.

VM and Factor 'G' (Lower Super Ego-Strength vs. High Super-Ego-Strength+)

A person who has a stringent Super ego structure may be more dissatisfied with his occupational choice than the one with a normal super ego (Medow, 1955). According to Cattell (1969), the G+ person views himself as persevering, planful, able to concentrate, cautious in thinking before he speaks. It involves success in a variety of performances requiring persistence, freedom from oscillation and good organization of thinking. Personality factor G was revealed as an insignificant correlate of vocational maturity in the studies of Chand (1979) and Agrawal (1981). However, Josan (1983) found factor G to be significantly and positively related with measures of vocational maturity.

Hypothesis III (vii)

Personality factor G is positively and significantly correlated with measures of vocational maturity.
VM and Factor 'H' (Shy vs. Adventurous)

The $H^-$ individual reports himself to be intensely shy, slow, and impeded in expressing himself. He dislikes occupations with personal contacts. In group situations, high $H$ persons feel free to participate. The $H^+$ is a component of second order factor of extraversion (Cattell, 1957) and $H^-$ is a component of neuroticism, like factor C (Eysenck, 1970). Chand (1979) remarked factor H to be an insignificant correlate of vocational maturity. Positive and significant relationship between factor H and vocational maturity was observed by Agrawal (1981).

Hypothesis III (viii)

Personality factor H is positively and significantly correlated with the measures of vocational maturity.

VM and Factor 'I' (Tough-Minded vs. Tender-Minded)

The $I^+$ person shows a definite fastidious dislike of "crude" people and rough occupations. $I^-$, at the opposite pole, represents some sort of tough, practical, mature and realistic temperamental dimension. Insignificant relationship between factor I and VM was reported by Chand (1979). Low scorers of factor I were found to be significantly related to vocational maturity (Agrawal, 1981).
Hypothesis III (ix)

Personality factor I is negatively and significantly correlated with measures of vocational maturity.

VM and Factor 'J' (Zestful vs. Circumspect Individualism$^+$)

This has so far proved a difficult pattern to interpret (Cattell, 1969). Factor J shows no significant correlation with any measure of vocational maturity. All the correlations were low and insignificant (Agrawal, 1981). Similar results were found by Josan (1983).

Hypothesis III (x)

Personality factor J is positively and significantly correlated with measures of vocational maturity.

VM and Factor 'O' (Self-Assured vs. Apprehensive$^+$)

The $O^+$ person feels overfatigued by exciting situations, remorseful and guilty, whereas $O^-$ person is self-confident, cheerful and has no fears. Low insignificant coefficient of correlations between factor $O$ and VM were exhibited in Agrawal's (1981) and Josan's (1983) studies. However, Chand (1979) reported factor $O^-$ to be significant correlate of vocational maturity.
Hypothesis III (xi)
Personality factor 0 is negatively and significantly correlated with measures of vocational maturity.

VM and Factor 'Q_2' (Group-Dependency vs. Self-Sufficiency+)
This factor is showing itself more in internal attitudes than in behaviour. It is one of the major factors in the second order factor of introversion. Q^-_2 pole shows a person who goes with group, strongly values social approval, and is conventional. Q^+_2 is a confident and remorseful, self-sufficient person. Parlikar(1973) found no significant correlations between self-sufficiency and vocational maturity for either sex at 8th through 11th grades. However, Bartlett's (1968) findings show autonomy and self-confidence positively related to vocational maturity. Studies of Chand(1979) and Agrawal(1981) also exhibited significant positive relationship between factor 'Q_2' and vocational maturity.

Hypothesis III (xii)
Personality factor Q_2 is positively and significantly correlated with measures of vocational maturity.

VM and Factor 'Q^+_3' (Uncontrolled vs. Controlled+)
Research agrees in finding Q^+_3 associations with all kinds of occupational and scholastic success (Cattell,1969). Lower score on this factor contributes to 2nd order anxiety
factor (Cattell and Scheier, 1961) i.e. poor integration and low regard for a stable self-sentiment are definitely associated with anxiety. \( Q_3^+ \) was found to be a significant correlate of vocational maturity by some researchers (Chand, 1979; Agrawal, 1981). Factor \( Q_3^+ \) was revealed as an insignificant correlate of vocational maturity in Josan's (1983) study.

**Hypothesis III (xiii)**

Personality factor \( Q_3 \) is positively and significantly correlated with vocational maturity measures.

**VM and Factor 'Q' (Relaxed vs. Tense+)**

This personality factor describes excitement and tension and reflects level of undischarged drive. The correlational connections of \( Q_4 \) are with factor \( C^- \) (ego-weakness), and \( O^+ \) (guilt-proneness) with which it shares strong common contribution to the pool of the anxiety, the second-order factor (Cattell and Scheier, 1961). \( Q_4^- \) was found to be a significant correlate of vocational maturity in Agrawal's (1981) study. On the other hand, Josan (1983) found negative but insignificant correlations between factor \( Q_4 \) and measures of vocational maturity.

**Hypothesis III (xiv)**

Personality factor \( Q_4 \) is negatively and significantly correlated with measures of vocational maturity.
IV. FACTORIAL STRUCTURE UNDERLYING INTELLECTUAL AND PERSONALITY VARIABLES AND VM:

Vocational maturity can be understood better by relying upon intellectual as well as personality variables related with it (Super, 1957; Crites, 1965). Results of Chand's (1979) and Josan's (1983) study revealed that intelligence and personality variables combined together with vocational maturity in different constellations in their factorial structure.

Hypothesis IV

Intellectual and personality variables combine together with vocational maturity in different clusters in their factorial structure.

V. INTELLECTUAL AND PERSONALITY VARIABLES AS PREDICTORS OF VM

Intelligence presumed as one of the potential predictors of vocational maturity has been tested in many studies (Harkness, 1973; Lawrence and Brown, 1976; Pavlak, 1981). It may perhaps not be possible to suggest or investigate that certain personality characteristics cause a typical vocationally mature behaviour, yet it may be possible to identify the personality characteristics of vocationally mature persons. Within the present context, it is thought that there is a set of personal qualities that characterizes the vocationally mature person
and predicts his vocational maturity, thus accounting for personality correlates and predictors of vocational maturity.

There may be yet another consideration that vocational maturity perhaps cannot be understood by merely relying upon its singular intellectual correlates, without rooting personality variables in theoretical concepts. Although certain cognitive characteristics are essential, it may be argued in agreement with some evidences (Subramanium, 1962; Crites, 1965) that vocational maturity cannot be studied in isolation from personality variables.

**Hypothesis V (i)**

Intellectual variables are significant predictors of vocational maturity.

**Hypothesis V (ii)**

Personality variables are significant predictors of vocational maturity.

**Hypothesis V (iii)**

Intellectual and personality variables taken conjointly contribute better towards the prediction of vocational maturity than their separate contribution.