DISCUSSION AND CONCLUSION

The main findings of the present research are as follows:

(1) Prolonged-deprivation has no differential effect on implicit memory. i.e. deprived and non-deprived subjects do not differ with respect to performance on implicit memory test.

(2) Prolonged-deprivation has differential effect on explicit memory, i.e. deprived subjects show poorer cued-recall than non-deprived subjects.

(3) Prolonged deprivation has differential effect on implicit and explicit memory i.e. deprivation has no effect on implicit memory whereas it impairs explicit memory.

(4) Task similarity has differential effect on implicit memory. More specifically phonemic similarity as compared to semantic similarity has greater detrimental effect on implicit memory.

(5) Task similarity also has differential effect on explicit memory, i.e. semantic similarity as compared to phonemic similarity has greater detrimental effect on explicit memory.

(6) Task similarity has differential effect on implicit and explicit memory. In other words, phonemic similarity has adverse effect on implicit memory but has no effect on explicit memory. Semantic similarity, on the other hand, has adverse effect on explicit memory but has no effect on implicit memory.

(7) There is an interactional effect of prolonged-deprivation and task similarity on implicit memory.
There is an interactional effect of prolonged-deprivation and task similarity on explicit memory.

There is an interactional effect of prolonged-deprivation and task similarity on the difference of implicit and explicit memory.

The first finding of the present research i.e. deprived and non-deprived subjects do not differ with respect to performance on implicit memory test, is not only interesting and has theoretical importance but also requires careful analysis. It has been observed by several investigators that deprivation of various kinds such as sensory, muscular, social, parental, cultural and economic, etc. results in deficient cognitive functioning (e.g. Dass, 1969; Panda, 1976; Millar, 1968; White, 1970; Tripathi and Misra, 1975; Saeeduzzafar and Alam, 1985). It has also been observed by numerous researchers that cognitive deficiency does not impair implicit memory. For instance, Warrington and Weiskrantz (1968, 1974); Cohen and Squire (1980); Jacoby and Weitherspoon (1982); Moscovitch (1982); Dimond and Rozen (1984); Graf et al. (1984); Cermac, Talbot, Chandler and Wolbarst (1985) and Schacter (1985) have observed that amnesic patients (amnesia results into cognitive deficiency) show normal or near normal performance on various tests of implicit memory. It is, therefore, reasonable to assume that any condition that makes cognitive functioning deficient should not impair implicit memory. The first finding of the present research provide empirical evidence to this assumption and is in total agreement with the findings obtained by numerous researchers cited above.

The first finding of the present investigation also provides empirical support to activation theory of implicit memory that asserts that priming
effect on implicit memory tests are attributable to the temporary activation of pre-existing representations, knowledge structure, or logogens (Morton, 1975; Rozen, 1976; Mandler, 1980; Graf and Mandler, 1984). Activation is assumed to occur automatically and requires no allocation of attentional processing. Thus deprived subjects whose cognitive functioning is deficient may show as good implicit memory as shown by non-deprived subjects through the automatic activation of pre-existing representations or knowledge structures that requires no allocation of attentional processing. In other words activation accounts are consistent with the finding of our research.

The second finding of our research i.e. deprived subjects show poorer cued recall (i.e. explicit memory) than non-deprived subjects, is in consonance with the findings obtained by Saeeduzzafar and Alam (1985; 1986) and Alam (1986; 1988) who have also found that prolonged deprivation has adverse effect on retention as measured by traditional tests such as free recall, cued-recall, and recognition. The finding, however, may also be explained in the light of allocation of attentional processing hypothesis. As a matter of fact explicit memory refers to conscious recollection of recently presented informations; and this conscious recollection is impossible without the allocation of attentional processing which in turn depends on normal cognitive functioning. It can be therefore, argued that if cognitive functioning is adversely affected, it will certainly impair the allocation of attentional processing, resulting into deficiency in explicit memory. As mentioned earlier deprivation causes severe deficiency in cognitive functioning. This cognitive deficiency may impairs allocation
of attentional processing which in turn may impair explicit memory.
The second finding of our research is consistent with this line of thinking.

The third finding of the present investigation i.e. Prolonged-deprivation has no effect on implicit memory but impairs explicit memory, provides strength to the first two findings of our research. The finding in discussion also provides at least indirect support to the findings obtained by numerous investigators on amnesic subjects - subjects who were cognitively deficient. For instance, Schacter, Harbluk and McLachlan (1984) demonstrated that amnesic subjects could learn some fictitious information about people but could not remember explicitly that they had just been told the information. More or less the same findings were obtained by Schacter and Tulving (1982), Shimamura and Squire (1987). Similarly, Luria (1976) observed that amnesic subjects produced bits and pieces of recently presented stories, even though they did not remember being told any stories. Glisky, Schacter, and Tulving (1986) found that a densely amnesic patient could learn to programme a micro-computer despite the patient's persistent failure to remember explicitly that he had even worked on a micro-computer. Johnson, Kim and Risse (1985) found that amnesics acquired preferences for previously exposed melodies though could not remember that melodies were exposed to them. The findings of these researchers suggest that cognitive deficiency caused by organic amnesia, brings about dissociations between implicit and explicit memory. More specifically, cognitive deficiency does not impair implicit memory whereas it has deteriorative effect on explicit memory. In this frame work, it is reasonable to argue that cognitive deficiency caused by prolonged deprivation
should also impair explicit memory and implicit memory should remain unaffected. The third finding of our research provides empirical evidence to this contention and demonstrates dissociation between implicit and explicit memory.

The fourth and fifth findings of our research i.e. phonemic similarity as compared to semantic similarity of the task has greater detrimental effect on implicit memory whereas semantic similarity as compared to phonemic similarity of the material has more pronounced adverse effect on explicit memory, require careful analysis. These findings are not only in consonance with the findings obtained by Neisser, 1954; Murrel and Morton (1974); and Osgood and Hoosain (1974) who demonstrated that priming of word identification performance does not occur for phonologically similar words but occurs for morphologically similar words, but also provide indirect empirical support to "Multiple Memory System" theory of implicit memory. According to multiple memory system, differences between implicit and explicit memory are due to the different properties of hypothesized underlying systems. Moreover, the distinction between episodic and semantic memory (Tulving, 1972; 1983) has also been invoked to account for dissociation on implicit and explicit test (Kinsborn and Wood, 1975; Parkin, 1982; Schacter and Tulving, 1982; Tulving, 1983; and Cermak et. al., 1985). The episodic memory system is viewed as the basis for explicit remembering of recent events whereas semantic memory is seen as responsible for performance on task such as word completion, lexical decision, and word identification, which require subjects to make use of pre-existing knowledge of words and concepts. According to this interpretation of multiple memory system, phonemically similar information should not impair explicit memory and semantically similar
information should not have adverse effect on implicit memory. The findings of our research provide empirical evidence to this assumption.

Another possible explanation of the fourth and fifth findings of our investigation may be derived from the activation view of implicit memory. According to this view the priming effect on implicit memory tests are attributable to the temporary activation of pre-existing representations, knowledge structure or logogens (Rozen, 1976; Morton, 1979; Mandler, 1980; Graf and Mandler, 1984). Since implicit memory depends on the activation of automatic process, phonemically similar material may inhibit the activation simply by creating confusion whereas semantic encoding require allocation of attentional processing, it is unlikely to affect implicit memory. Explicit memory on the other hand, involve conscious recollection and attentional capacity, semantically similar material is likely to impair the attentional capacity of the subject whereas phonemic encoding require no allocation of attentional processing it is unlikely to affect explicit memory.

The fourth and fifth findings of the present research reveals a trend suggesting similarity between implicit memory and short term memory and between explicit memory and long-term memory. Numerous investigators have demonstrated that phonemic similarity has adverse effect on short-term memory but has no effect on long-term memory whereas semantic similarity impairs long-term memory but has no effect on short-term memory (Kintch and Buchke, 1969; Philip, 1972; Saeeduzzafar, 1976). The same pattern of results have been found in case of implicit and explicit memory. Further research is therefore, needed to ascertain
whether or not same processes are involved in implicit and short-term memory and in explicit and long-term memory.

As mentioned earlier, the present research was also designed to determine the differential effect of each independent variable namely prolonged-deprivation and task similarity on implicit and explicit memory. The sixth finding of the present research reveals that task similarity also have differential effect on implicit and explicit memory. This finding not only provides further evidence in favour of dissociation between implicit and explicit memory but also is in line with the fourth and fifth finding of our research. In other words the sixth finding of our research i.e. task similarity has differential effect on implicit and explicit memory (i.e. Phonemic similarity has adverse effect on implicit memory but has no effect on explicit memory whereas semantic similarity has adverse effect on explicit memory but has no effect on implicit memory) provides further strength to our fourth and fifth findings.

The seventh finding of our research i.e. there is an interactional effect of prolonged-deprivation and task similarity on implicit memory, simply suggests that implicit memory of deprived and non-deprived subjects is not independent of the similarity of the task. In other words deprived subjects under semantically similar condition show markedly superior implicit memory performance than deprived subjects under phonemically similar condition but non-deprived subjects under semantically similar condition are not as much superior to non-deprived subjects under phonemically similar condition as are their former counterparts i.e: the effect of being deprived depresses performance for phonemically similar condition.
but facilitate performance for semantically similar condition.

The 8th finding of our investigation i.e. there is an interactional effect of prolonged-deprivation and task similarity on explicit memory, suggests that explicit memory of deprived and non-deprived subjects also is not independent of the similarity of the task. In other words, deprived subjects under semantically similar condition show poorer cued-recall than deprived subjects under phonemically similar condition but non-deprived subjects under semantic condition show better cued-recall than non-deprived subjects under phonemically similar condition i.e. the effect of being phonemically similar facilitates performance for deprived subjects but depresses performance for non-deprived subjects.

The last finding of the present research i.e. there is an interactional effect of prolonged-deprivation and task similarity on the difference of implicit and explicit memory, reveals that the difference between implicit and explicit memory for deprived subjects under phonemically similar condition is lower than the difference between implicit and explicit memory for the deprived subjects under semantically similar condition. But the difference between implicit and explicit memory for non-deprived subjects under semantically similar condition tend to be lower than the difference between implicit and explicit memory for non-deprived subjects under phonemically similar condition.

The over all findings of the present research resolved the existing controversy regarding the distinction between implicit and explicit memory. It may be recalled that there are conflicting results regarding the dissociation
between implicit and explicit memory. A number of investigators have demonstrated clear distinction between implicit and explicit memory (e.g. Murrel and Morton, 1974; Kunts, Wilson and Zonic, 1980; Jacoby and Dallas, 1981; Graf and Mandler, 1984; Komatsu and Ohta, 1984; Eich, 1984; Graf, Shimamura and Squire, 1985; Graf and Schacter, 1987) whereas other investigators have revealed several similarities between implicit and explicit memory (Jacoby, 1983a; McKoon and Ratcliff, 1979; 1986; Moscovitch et al., 1986; Schacter and Graf, 1986(a); Graf and Schacter, 1985; 1987; Schacter and McGlynn, 1987). The finding of the present research strengthen the dissociation view of implicit and explicit memory. Thus the findings of the present study not only demonstrate striking dissociation between implicit and explicit memory but also have raised fundamental questions concerning the nature and composition of memory and consequently have opened the fertile field for future research. Moreover our findings have important implications for the development of the theory of implicit memory.