INTRODUCTION
In ancient period the human society was of the opinion that the disease was the will of the God or a divine act or the result of magic (Jadu - Tona). The knowledge of the existence of microbes in nature was nil till Antony van Leeuwenhoek discovered the presence of bacteria in 1676 (Dey and Dey, 1973). Even after the discovery of bacteria scientists had faith in “spontaneous generation” as it was not known that there is relation between germs and diseases. Robert Koch (1876) was the first scientist who went on record to state that microbes are the causes of several diseases. Modern bacteriology came into existence during the later part of the nineteenth century as an organized science. During this period disease causing agents were discovered one after the other in rapid succession - Malarial parasite (1878); *Staphylococci* (1878); Anthrax (1881); Tubercle bacillus (1882); Diphtheria bacillus (1883); Cholera vibrio (1884); Typhoid bacillus (1885); *Shigella dysenteria* (1889) and so on, and it confirmed that there exists a relation between germs and diseases.

Now scientists started searching proper medicines to control the microbes and diseases. Since then a lot of work has been done to find out the ways and means to control the microbes. Ehrlich and Hata (1910) gave the term ‘Chemotherapy’ to the treatment by the chemical, i.e. drug, which kills the germs selectively and sterilize the
body system without damaging the tissue of host. Nowadays this term is used for the treatment of cancer by chemicals. Chemotherapeutic agents are widely employed to treat the different diseases. For example, salvarson is used in the treatment of syphilis, antimony in Leishmaniasis, quinine in malaria, arsenical compounds in Trypanosomiasis etc. Sulphonamide, synthetic antibiotics (e.g., synthetic penicillin) etc. have been introduced recently as chemotherapeutic agents. For such chemicals a wide term 'pesticide' is used which includes fungicides, bactericides, virucides etc. Such chemicals are used to prevent, control or eliminate the pathogen. On an average 72% of the pesticides are insecticides, 3% weedicides and rest others include bactericides, virucides etc. There are about 23 industrial units in India which are manufacturing technical grades of pesticides. So far 220 pesticides have been registered for use. Though pesticides benefited human beings by controlling various pathogens of plants and animals, they are also becoming a problem to human race and the latter is severely facing the pesticidal pollution. On one hand the pesticides are important in controlling injurious pathogens and on the other hand they are proving to be hazardous to species in the environment. Many of the synthetic chemicals, being used as drugs, show teratogenicity, carcinogenicity and other side effects (Bajaj and Ghosh, 1975). Use of ampicillin, for
example, may cause nausea, epigastric distress, diarrhoea, skin rash, drug fever, urticaria, oral candidiasis as its side effects; use of ciprofloxacin may cause headache, vomiting, restlessness, abdominal pain etc. as its side effects and likewise other antibiotics also have some side effects which adversely affect the patients during the course of treatment for a particular disease (IRD, 2000). Excessive use of pesticides sometimes irreversibly damages the ecosystem, contaminates soil surface, ground water and finally disturbs the food chain. For example, ‘Oxitocin’ is used to increase milk production in milk animals but causes impotency as its side effect. These milk animals, after their death, are eaten by vultures and ‘Oxitocin’ reaches to them through the food chain. This oxitocin causes impotency in vultures and it is the reason that the vultures have reached the verge of extinction nowadays. Thus the human society is being badly affected by the residual side effects of pesticides. Pesticides are responsible for more than two million cases of human poisoning, with a resultant twenty thousand deaths, every year (WHO, 1986). Exposure to these synthetic chemicals can lead to cardio pulmonary, neurological and hematological disorders. They can be passed on to the infants through mother’s milk (WHO, 1986).
Several microbes become drug resistant by developing their mutants. We must know the fact that most of the bacteria have plasmids (extrachromosomal DNA in periplasm of their cells) and these plasmids have the genes for resistance against an antibiotic. Penicillin resistance, for example, may result from the production of enzyme penicillase by resistant organisms. Penicillase converts active penicillin into inactive penicilloic acid. Penicillase producing gene is found on the plasmid of the bacterium and this bacterium is called resistant one. Besides, susceptible strains of bacteria may also acquire resistance to penicillin by genetically adapting themselves to produce penicillase. In cultures of penicillin sensitive bacteria, perhaps one organism in a hundred million may be a penicillin resistant mutant. Normally the ratio of sensitive to resistant organisms is maintained and problem dose not develop. When penicillin is present, the sensitive strains do not reproduce and the resistant mutants do. Eventually they dominate the population. Therefore research efforts are needed to investigate new resources of effective and innocuous antibiotics.

Therapies, to control the fascinating world of microbes, are changing frequently with the advancement of knowledge about microbes and has undergone cyclic changes from very early times.
Plants are being used as medicines since the days of ‘Hindu medicine’. The pharmacopoea of Ayurvedic, Islamic and Unani systems are largely based on green plants associated with medicinal virtues (Chandra et al., 1980). The compounds of plant origin have very little or no side effects in human beings (Kumar et al., 1995). Swaminathan (1978) has suggested that green plants are the reservoir of biotoxicants and constitute inexhaustible sources for innocuous pesticides. Several workers have mentioned the use of folk medicines in disease control (Schults, 1962; Jain, 1964; Jaggi, 1973; Mume, 1976; Sofowora, 1982; Karatela et al., 1991; Azmi, 1996; Kumar et al., 2005; Saxena et al., 2005). Some higher plants have been reported to have fungitoxic substances and these substances have been found to possess antibacterial activity against human pathogenic bacteria (Kumar et al., 1995). Pesticidal compounds of plant origin are more effective than the synthetic compounds (Dikshit et al., 1979). Beye (1978) emphasized that we must not overlook the fact that practically all the natural pesticides are completely biodegradable within a short period of time, without leaving any residue and thus limit pesticidal pollution.

As such, to find out a potent source of bactericide to control Shigella spp. it was considered desirable to investigate antibacterial activity in plants of this locality and to find out the active...
fraction of most active plant. The district Azamgarh, surrounded by the river Tamsa along three sides in horse-shoe shape, has very rich tropical flora (Srivastava, S.N., 1986 and Chandra, V., 1984) was thought to be a suitable place for such a study.

Bacillary dysentery is caused by a group of an organism of the genus *Shigella* and characterised by acute inflammation of the intestine with gripping and tenesmus, passage of blood and mucous in the stools. The disease is present all over the world and epidemic outbreaks occur from time to time in various places. Overcrowding and bad hygienic conditions help in the spread of infection. The spread of the disease occurs by contaminated foods and drinks. Man is the source of infections. Water borne epidemics may occur due to contamination of drinking water. This human pathogenic bacterium is very much injurious which, if not taken care, may become fatal (Dey and Dey, 1973). Severe dysentery may lead to fever, vomiting, marked dehydration, inflammation and ulceration of large intestine. Death may occur due to circulatory failure or kidney failure (Godkar, 1996).

*Shigella spp.* are enterobacteria. People of eastern Uttar Pradesh are currently facing the problem of *Shigella spp.* in the form of epidemic. In the prevailing circumstances, it was deemed fit
to evaluate the antibacterial activity in the plants of this locality and investigate the active constituent(s) of most active plant in order to find out an effective source of bactericide to control *Shigella spp.*.