

EDUCATION

TEXT BOOK FOR H. S. SECOND YEAR



ASSAM HIGHER SECONDARY EDUCATION COUNCIL

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On Behalf of Assam Higher Secondary Education Council

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Foreword

In Order to impart quality education to the students of the Higher Secondary level and also to cater to the need of the hour, Assam Higher Secondary Education Council has been revising its curriculum and syllabi from time to time. It has introduced revised curricula with effect from 2011-2012 which has its base on NCF-2005, In the context of globalization of the economy, emergence of Information Technologies and application of new technologies in production processes, the National Council of Education Research and Training has proposed a new National Curriculum Framework (NCF-2005) for grades I-XII. This framework, which addresses the emerging developmental issues and other social concerns, provides a basis for the State to design their curricula, syllabi, teaching learning materials etc. In its endeavour to keep the uniformity with the national level, Assam Higher Secondary Education Council after due deliberation decided to develop its curricula and syllabi on the basis of NCF-2005. Accordingly, textbooks have been prepared to materialize the objectives of the curricula and the syllabi.

The preparation of the book was a collective effort of a group of people. Assam Higher Secondary Education Council appreciates the hard work done by the textbook development committee responsible for the book. AHSEC welcomes comments and suggestion which will enable us to undertake further revision and refinement. We would also appreciate feedback from the teachers and the students.

Bamunimaidam, Guwahati

S. Das
Secretary
Assam Higher Secondary Education Council

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CONSTITUTION OF INDIA

Preamble

WE, THE PEOPLE OF INDIA, heaving solemnly resolved to constitute India into a **SOVEREIGN SOCIALIST SECULAR DEMOCRATIC REPUBLIC** and to secure to all its citizen :

JUSTICE, social, economic and political;

LIBERTY of thought, expression, belief, faith and worship;

EQUALITY of status and of opportunity; and to promote among them all

FRATERNITY assuring the dignity of the individual and the unity and integrity of the Nation;

IN OUR CONSTITUENT ASSEMBLY this twenty-sixth day of November, 1949, do **HEREBY ADOPT, ENACT AND GIVE TO OURSELVES THIS CONSTITUTION.**

Syllabus for Higher Secondary Second Year Course

Unit No	Title	Marks	Periods
Unit - 1	Development of Secondary Education in India and Assam (Post Independence Period)	15	25
Unit - 2	Non-formal Education	10	20
Unit - 3	Current Trends in Education	15	30
Unit - 4	Learning	15	25
Unit - 5(A)	Memory, Forgetting,	15	30
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Unit - 6	Mental Health and Hygiene	10	20
Unit - 7	Educational Statistics	20	30
<hr/> Total		100	180

UNIT - 1
DEVELOPMENT OF SECONDARY
EDUCATION IN INDIA AND
ASSAM (POST INDEPENDENCE PERIOD)

CONTENT :

- **Objects**
- **Mudaliar Commission 1952-53**
 - i) Terms of Reference of the Commission
 - ii) Defects of Education System
 - iii) Aims of the Secondary Education
 - a. Development of Democratic Citizenship
 - b. Improvement of Vocational Efficiency
 - c. Development of Personality
 - d. Education for Leadership
- **Kothari Commission 1964-66**
 - i) Education and National Objectives
 - a. Education and Productivity
 - b. Social and National Integration
 - c. Education and Modernization

- d. Social, Moral and Spiritual Values
- ii) Structure and Standard of Education
- ii) Vocationalisation of Education

■ **National Policy of Education 1986**

- i) Introduction
- ii) Main Features of NPE 1986
 1. Role of Education
 2. Education for Equality
 3. Adult Education
 4. Early Childhood Care and Education
 5. Elementary Education
 6. Non-formal Education
 7. Secondary Education
 8. Vocationalization of Education
 9. Higher Education
 10. Open University
 11. Delinking Degree from Jobs
 12. Rural University
 13. Technical and Management Education
 14. Emphasis on Learning
 15. Value Education
 16. Preservation of Culture
 17. Science Education
 18. Education and Environment
 19. Sports and Physical Education
 20. Educational Technology
 21. Media
 22. Management of Education

23. Operation Black Board

24. Navodaya Vidyalaya

- **Development of Secondary Education in Assam after Independence**
- **Problem of Secondary Education in Assam.**
- **Summary**
- **Questions**
- **Reference Books**

OBJECTIVES

After the study of this unit you will be able :

- To know about the secondary education of India and Assam in post independent period.
- To explain the trend of development of secondary education of India and Assam
- To know about the aims of secondary education as identified by Mudaliar Commission 1952-53.
- To understand the recommendations of Kothari Commission on aim and the structure of education.
- To know about the recommendations of Kothari Commission on vocational ization of education.
- To explain the main features of National Education Policy 1986.
- To explain the main features of National Education Policy 1986.
- To know about the trend development of secondary education of Assam after Independence.
- To explain the problems of Secondary Education in Assam.

INTRODUCTION :

Secondary education is the key between Primary Education and Higher Education. Secondary education means the education which is imparted for the adolescence period. Secondary education prepare the adolescence boys and girls for their future life.

Government of India appointed Secondary Education Commission 1952-53 to study all the aspects of secondary education. Dr. Lakmanswami Mudaliar was the chairman of this commission. Secondary Education Commission of 1952-53 determined personality development, training of leadership, concept of democratic citizenship, education for formation of character and education for vocational efficiency as the aims of education.

Government of India appointed Kothari Commission in the year 1964-66. The main objectives of the appointment of this commission is the development of National system of education. The commission recommended 10+2+3 formula for the development of education. Kothari Commission stressed for the total development of India education system and advocated for standard and structure. Again the commission stressed on the extension of vocational education in secondary level. To develop this attitude the commission recommended ‘Work Experience’ in secondary level to make it scientific.

In 1986 Government of India formulate a New education policy. Through this policy government of India want to introduce innovative concept in every aspect of secondary education.

Secondary education system of Assam was developed with the establishment of Guwahati Seminary, which at present known as Cotton Collegiate school in 1835. But secondary education in Assam has made a considerable progress in Assam since Independence, basically on the basis

of the recommendations of Mudaliar Commission (1952-53), Kothari commission (1964-66) and National Education Policy. But the System of Secondary Educational in Assam has suffer from various detects. In this unit we are going to discuss about these aspects.

MUDALIAR COMMISSION 1952-53

After independence the Government of India took up the problem of re-organisation of secondary education and appointed a Secondary Education Commission in 1952. The chairman of this commission was Dr. Laksman Swami Mudaliar the Vice-Chancellor of the Madras University. After him the commission is also known as the Mudaliar Commission of 1952-53. The commission presented its report in 1953. In the report Dr. Mudaliar gives us a detail discussion and recommendations on the various aspects of secondary education.

Terms of Reference of the Commission :

1. “To enquire into and report on the present position of secondary education in India, in all its aspects.
2. To suggest measures for its re-organisation and improvement with particular reference to :
 - i) The aims, organisation and content of Secondary education.
 - ii) Its relationship to primary task and higher education.
 - iii) The inter-relation of secondary school of different types and
 - iv) Other allied problems so that a sound and reasonable uniform system of secondary education suited to our needs and resources may be provided for the whole country.”

Method of Enquiry. The Commission prepared a questionnaire dealing with various aspects of secondary education. This was sent out to various educational experts, teachers and educational institutions of India. On the basis of the replies received a good deal of information was collected. The members of the Commission took an extensive tour of the various parts of India and acquired a first-hand knowledge of the various problems faced in the secondary education in the country. The commission presented a report running in 250 pages on August 29, 1953.

Defects of the Secondary Education System :

First of all the commission pointed out some defects of the prevailing system of Indian

Secondary Education. The Defects are :

1. The prevailing system of Indian secondary education is narrow and one-sided. It has failed to train the whole personality of the students.
2. The education given in our schools is isolated from life while the curriculum as formulated and as presented through the traditional methods of teaching does not give the students insight into the every day world in which they are living.
3. Until comparatively recently English was both the medium of instruction and a compulsory subject of study.
4. The method of teaching generally practised failed to develop in the student their independence of thought and initiative in action.
5. The increase in size of the classes has considerably reduced personal contact between the teachers and the pupils.

6. The dead weight of the examination has tended to curb the teachers' initiative, to stereotype the curriculum, to promote mechanical and lifeless methods of teaching, to discourage all spirit of experimentation and to place the stress on wrong, or secondary elements in education.

Aims of the Secondary Education :

Secondary Education Commission 1952-53 recommended the following for aims of education :

a) Development of Democratic Citizenship : India can be a democratic republic if the citizens uphold and practice the values of discipline, tolerance, patriotism, cooperation, equality in thought, speech and writing. The essence of the world citizenship is inculcated and developed through education. According to Mudaliar Commission, schools should maintain and develop all these qualities in the students. Citizens with these qualities can grow into ideal citizens capable of making the democracy a success.

b) Improvement of Vocational Capability and Efficiency : In all the secondary schools, proper emphasis should be laid on crafts and productive work. This can be achieved through diversification of the courses of study at the secondary level. The students may take up agriculture or some other technical or commercial course to add to the productive capability of the country.

c) Development of Personality : The secondary education must aim at the development of the personality of the students. The creative energy in the students should find proper expression. They should acquire constructive and valuable interest. They should be trained to preserve and conserve their cultural heritage.

d) Education for Leadership : The secondary education must impart education for leadership. Students should also be trained to be able to own the responsibilities of leadership in various fields of life, namely, social, cultural, political, industrial, etc.

Point to Remember :

1. Secondary Education Commission was appointed in 1952-53 to study all the aspects of secondary education of India.
2. Dr. Laksmanswami Mudaliar was the chairman of the Secondary Education Commission of 1952-53.
3. According to the commission aims of education were –
 - a) Personality development
 - b) Training of leadership
 - c) Concept of democratic citizenship
 - d) Education for formation of character and
 - e) Education for vocational efficiency

Activity 1

1. In which year India got her Independence?
2. When Secondary Education Commission was constituted?
3. Who was the Chairman of Secondary Education Commission?
4. What were the aims determined by Secondary Education Commission.
5. Write briefly about the aims of education mentioned by the Mudaliar Commission 1952-53.

KOTHARI COMMISSION 1964-66

The government of India appointed in National Education Commission in 1964 under the Chairmanship of Dr. D. S. Kothari, Chairman, University Grants Commission, New Delhi. After the name of Dr. D. S. Kothari the commission was known as Kothari Commission. Amongst the several objectives of the appointment of this commission were evaluation of the different stages of education and to evolve a National System of Education. The total membership of the commission was 17 and it submitted its report on June 29, 1966. J. P. Naik was the member-Secretary of the commission. The report of the commission is divided into four main sections.

Section I deals with General problems.

Section II deals with Education at different stage and in different sectors.

Section III Deals with implementation of the various recommendations and prorammes suggested by the commission.

Section IV consists of supplementary papers.

The main body of the report is included in the first three sections consisting of 19 chapters. The commission proposed the programmes of educational reconstruction as :

1. Internal transformation of the educational system so as to relate it to the life, needs and aspiration.
2. Qualitative improvement of education so that the standards achieved are adequate, keep continually rising and at least in a few sections become comperable with international standards and
3. Expansion of educational facilities broadly on the basis of manpower needs and with an accent on equalization of educational opportunities.

Education and National Objectives :

In the changing of society education has a very extensive role. Education should be related to the life and needs of the person so that national objectives may be achieved. Education has to be developed so that it may be linked to productivity, achieve social and national integration, accelerated the process of modernization of the social and economic systems and may infuse higher moral and spiritual. The commission finalized and suggested the following as National objectives of Education.

a) Education and Productivity : If education is related to productivity an expansion of education will lead to increase in national income. Study of science has to be made an integral part of education at school and University stages. At the same time 'work experience' has to be introduced as an important aspect of education and may be oriented towards technology and industrialization and to the application of science and productive processes including agriculture. Education, particularly at the secondary stage, needs vocationalization.

b) Social and National Integration : Social and national integration is a major problem which our country is facing today. The forces of disintegration are rising their heads in all directions. One of the weapons by which these demonic forces can be crushed is education. The rising generation, if properly educated, will help in the creation of a strong and united country. To meet this objective the commission suggested the establishment of common schools for general education. The admission to such schools would be made not on the' basis of talent but on the basis of the capacity to pay fees. The commission stressed the introduction of compulsory social and national service at every level. Labour and social service camps should be organised. NCC should be made voluntary after

scheme of social service comes into existence. The commissions felt the language policy plays an important role in bringing about national integration.

c) Education and Modernization : The most significant objectives of national education is the progress of modernization in all walks of life. A chief characteristic of present-day life and society is its dynamism. In a modern society, knowledge changes at a fast speed. It is advancing fast and mainly due to the adoption of science-based technology. Education must keep pace with this advancement. If it fails to do so it will be divorced from life. The commission suggested the following measures in order to enable education to keep pace with the progress of modernization.

- 1) Education must keep pace with the advances in knowledge instead of being tagged to the limited stock of knowledge of traditional society. There must be a new approach to the objectives and methods of education and changes in the education of teacher.
- 2) Education must keep abreast of the social changes which now-a-days take place at a breath-taking pace.
- 3) Education must be so oriented that the educated society may respond appropriately' to the new challenges of national reconstruction.
- 4) There must be a quick expansion of secondary and higher education.

d) Social, Moral and Spiritual values : The national system of education stressed value-based education. Education should be related to life and it cannot afford to ignore the inculcation of social, moral and spiritual values. This value-based education can be provided both by direct and indirect methods.

Generally, the minds of the students are influenced by the school atmosphere, the personality and behaviour of the teachers, the co-curricular activities, the celebration of religious festival, social service programmes etc. These are the aspects which help indirectly in including the values of co-operation, mutual regard, honesty and integrity, discipline and social responsibility. During the school programme there should also be specific provision for direct moral instruction from Primary to University stage. The Kothari commission accepted the recommendations of Sri Prakash Committee 'that one or two periods a week should be set aside in the school time-table for instruction in moral and spiritual values'.

Structure and Standard of Education : The Commission suggested the following elements with regard to structure and duration of education—

1. Division of the educational pyramid into different level of stages and their inter-relationship.
2. Duration covered by different stages.
3. Quality of teachers, curricula, methods of teaching, evaluation, equipment and infrastructure.
4. Utilisation of available resources to their optimum.

The reorganisation, spread over a period of 20 years, The new educational structure will consist of—

- (i) One to three years of pre-school education.
- (ii) A ten year period of general education which may be sub-divided into a primary stage of 7-8 years (a) lower primary stage of (4-5 years and a higher primary stage of (2 or 3 years) and lower secondary stage of 3 or 2 years or general education or one to three years of vocational education.

- (iii) A higher secondary stage of two years of general education or one to three years of vocational education.
- (iv) A higher educational stage of having a course of three years or more for the first” degree and followed by courses of varying duration for the second and research degree.
- (v) Secondary schools should be of two types- high schools providing a ten year course and higher secondary schools providing a course of 11 or 12 years.

The age of admission to class one should not be less than 6. The first public examination will come at the end of the 10 years of school. A new higher secondary course beginning in class XI should be instituted and classes XI and XII should provide specialised studies in different subjects. The Pre-University course should be transferred from Universities to secondary schools.

Vocationalisation of Secondary Education :

Kothari Commission of 1964-66 emphasize particularly the need to vocationalize secondary education and to expand the vocational courses to cover about half of the total enrollment at this stage. A large variety of terminal courses should be organized, varying in duration from one to three years. They will include courses for the training of primary and pre-primary teachers, courses conducted by the industrial training institutions for a large number of trades for which the completion of studies class X is the minimum qualification. Courses in agriculture and industry which will train the middle level of personal needed, courses for training paramedical/health personal; courses for secretariat work; and courses in Home Science. It is such courses that will make secondary education mainly terminal.

In the present educational scenario of India +2 stage has plays a tremendous role. The setting of life of an individual can fix by +2 stage. Regarding the introduction of +2 pattern of education, the commission of 1964-66 opined that "It will be advantageous to have a broadly uniform education structure in all parts of the country. The ultimate objective should be to adopt the 10+2+3 pattern, the higher secondary stage or +2 stage of two years being located in the school, colleges or both according to the local condition." The general education along with some vocational education will be provided at the first stage i.e. up to class Xth. More extensive and intensive part of vocational education will start at +2 stage, which is considered to be the most "crucial and controversial" stage in the whole system of education. The contents of the syllabus of the +2 stage have been made with foresight. Attempts have been made to make the students self reliant. In addition to work scnookaa to undertake suitable activities of community service. It includes work in hospitals, to help the poor, removal of illiteracy, projects of village upliftment etc.

To develop the vocational attitude in the mind of the students commission advised to implement work experience in school education. Work experience means the participation of student in productive situation at home, school, factory, firm, workshop etc. According to the commission manual work become educative, if gives expression to the creative impulse of the young stands. It is not wise to have compartments between mental works and manual work. Our prime duty will be to make the learner economically self-sufficient, educative efforts become a purposeful, it is the only hope of the young stars with lower intelligence, it can bridge the gulf in the society.

Point to Remember :

1. Government of India appointed Kothari Commission in the year 1964-66.
2. Dr. D. S. Kothari was the chairman of NE Commission 1964-66.
3. Kothari Commission of 1964-66 recommended 10+2+3 formula for the development of Indian education.
4. Kothari Commission 1964-66 stressed for the total development of Indian education system and advocated for standard and structure.
5. The commission stressed on the extension of vocational education in secondary level and recommended 'Work Experience' to make it scientific.

Activity 2

1. Mention the aims of National education as determined by Kothari Commission 1964-66.
2. Analised the 10+2+3 formula.
3. How many years of school education mentioned in the commission?
4. What was the opinion of Kothari Commission regarding vocational education?
5. What do you understand by 'work experience'?

NATIONAL POLICY OF EDUCATION 1986

Since the adoption of the Education Policy of 1968 there has been considerable expansion in educational facilities all over the country at all

levels. However the general formulations incorporated in the 1968 policy did not get translated into detailed study of implementation. As a result problems of access quality and quantity, utility and finance have reached such proportions that they must be tackled with the utmost urgency. Accordingly the Government of India, announced in January 1985 that a New Education Policy would be formulated in the country. A status paper “Challenge of Education- A policy perspective” which made a comprehensive appraisal of the existing system of education was brought out. There was a countrywide debate on educational reforms in the country. Finally the New Education Policy was approved by the Parliament in May 1986.

The policy emphasized– (i) Vocationlization of Education. Particularly, at the secondary stage of education the curriculum should be joboriented. (ii) To awaken the people about the various scientific and technological developments and to make the students at the various stages of education aware of the same in order that they may utilize them in their future life. (iii) To encourage Government and non-government efforts for wiping out illiteracy and to emphasize the necessity of adult education, formal education, farmer’s education and ‘open’ school.

Main Features of New Education Policy 1986 :

1) Role of Education : In our national perception education is essentially for all. This is fundamental to our all round development, material and spiritual. Education has an acculturating role. It refines sensitivities and perceptions that contribute to national cohesion, a scientific temper and independence of mind and spirit, thus furthering the goals of socialism, secularism and democracy enshrined in our constitution. Education develops manpower for different levels of ,the economy. It is also the substrate on which research and development flourish, being the ultimate guarantee of

national self-reliance. Education is an investment in the present and the future this principle is the key to the National Policy on Education.

2) Education for Equality : National Education Policy of 1986 will lay special emphasis on the removal of disparities and to equalise educational opportunities by attending to the specific needs of those who have been denied equality so far. Education will be used as an agent of basic change **in the status of women.** In order to neutralise the accumulated distortions of the past, there will be a well-conceived edge in favour of women. The national education system will play a positive, interventionist role in the empowerment, of women. It will foster the development of new values through redesigned curricula, textbooks, the training and orientation of teachers, decision makers and administrators, and the active involvement of educational institutions. This will be an act of faith and social engineering. The removal of women's illiteracy and obstacles inhibiting their access to, and retention in, elementary education will receive overriding priority. Major emphasis will be laid on women's participation in vocational, technical and professional education at different levels.

The central focus in the **Scheduled Castes'** educational development is their equalisation with the non scheduled caste population at all stages, and levels of education in all areas and in all the four dimensions - rural male, rural female, urban male and urban female. Incentives to indigent families to send their children to school regularly till they reach the age: of 14. Pre-matric scholarship scheme for children of families engaged in occupations such as scavenging, flaying and training to be made applicable from Class I onwards. Recruitment of teachers will be made from among the scheduled caste people. To facilitate full participation of the scheduled castes, the school buildings, Balwadis and Adult Education Centre will be established in central places. To make substantial educational facilities

available to the Scheduled Castes N.R.E.P. and R.L.E.G.P' resources will be utilized. To increase the participation of the scheduled castes in the educational process new methods will be introduced.

To develop the scheduled tribes special measures will be taken. Priority will be accorded to opening primary schools in tribal areas. School building will be constructed under the normal fund for education as well as under the N.R.E.P., R.L.E.G.P' and Tribal Welfare Schemes. At the initial stage arrangement will be made to develop the curricula and devise instructional materials in tribal languages. Educated and promising Scheduled Tribe youths will be encouraged and trained to take up teaching in tribal areas. Residential schools, including Ashram Schools will be established on a large scale. Incentive schemes will be formulated for the Scheduled Tribes and emphasis will be given to providing scholarship.

Other educationally backward sections and areas of the society will be developed, particularly in the rural areas. Hills and desert districts, remote areas and islands will be provided adequate institutional infra-structure. Greater attention will be paid to education of the minority groups in interest of equality and social justice. This will naturally include the constitutional institutions and protection to their languages and culture. Adequate arrangements will be made to give proper education and facilities to physically handicapped, mentally handicapped and disabled children. Special schools with hostels will be provided, as far as possible at district headquarters for the severely handicapped children.

3) Adult Education : A literacy programme will be organised for making illiterate persons literate within the age group of 15 and 35. The Central and State Governments, political parties and their mass organisations, the mass-media and educational institutions must commit themselves to mass literacy programmes of diverse nature. It will also have to involve, on

a large scale, teachers, students, youth, voluntary agencies, employers, etc. Concerted efforts will be made to harness various research agencies to improve the pedagogical aspects of adult literacy. The mass literacy programme would include, in addition to literacy, functional knowledge and skills and also awareness among learners about the socio-economic reality and the possibility to change it. Continuing Education Centres will be established in rural areas to meet this need. Distance education will be given to the masses through Radio, Television and Films.

4) Early Childhood Care and Education : The National Policy of Education has used the term Early Childhood Care and Education in place of pre-primary or Nursery Education. National Policy of Education lays stress on the holistic nature of child development viz., nutrition, health and social, mental, physical, moral and emotional development. Early childhood Care and Education will receive high priority and be suitably integrated **with the Integrated Child Development Services Programme** wherever possible. Day-care centres will be provided as a support service for universalisation of primary education, to enable girls engaged in taking care of siblings to attend school and as a support service for working women belonging to poorer sections.

Programmes of ECCE will be child oriented, focussed around play and the individuality of the child. Formal methods and instruction of the 3 R's will be discouraged at this stage. The local community will be fully involved in these programmes. A full integration of child care and pre-primary education will be brought about both as a feeder and a strengthening factor for primary education and for human resource development in general. In continuation of this stage, the School Health programme will be strengthened.

5) Elementary Education : The new thrust in elementary education will emphasis two aspects. These aspects are –

- (i) Universal enrolment and universal retention of children upto 14 years of age.
- (ii) A substantial improvement in the quality of education.

According to this new policy of education each primary school will have at least two reasonably large rooms that are usable in all weather and the necessary toys, blackboards, maps, charts and other learning material. At least two teachers, one of whom will be a woman, should work in every school, the number increasing as early as possible to one teacher per class. Construction of school buildings will be first charge on NREP and RLEGP funds. Each primary school will function throughout the twelve months a year.

6) Non-formal Education : A large and systematic programme of non-formal education will be launched for school dropouts, for children from habitation without schools, working children and girls who cannot attend whole-day schools. Modern technological aids will be used to improve the learning environment of Non-formal Education Centres. Talented and dedicated young men and women from the local community will be chosen to serve as instructors and particular attention paid to their training. All necessary measures will be taken to ensure that the quality of Non-formal Education is comparable with formal education, and government will take overall responsibility for this vital section. New Education Policy will give the highest priority to solving the problems of children dropping out of school.

7) Secondary Education : Secondary education begins to expose students to the differentiated roles of science, the humanities and social sciences. This is also an appropriate stage to provide children with a sense of history and national perspective and give them opportunities to understand their constitutional duties and rights as citizens. Conscious internationalisation

of a healthy work ethos and of the values of a humane and composite culture will be brought about through specialized institutions or through the refashioning of secondary education which can, at this stage, provide valuable manpower for economic growth. Access to Secondary education will be widened to cover areas unserved by it at present. Pace-setting schools will be established in various parts of the country on a given pattern, but with full scope for innovation and experimentation. The schools will be established to promote national integration by providing opportunities to talented children, largely rural, from different parts of the country to live and learn together.

8) Vocationalization of Education : New education policy emphasised the vocationalization of education. As far as possible, education should be given in a national environment. The child must acquire some skill in some area of his interests. This is necessary for a happy life in future. With this end in view this new education policy has advocated the inclusion of scientific and technical subjects in the curriculum. It has been specifically stated in the policy that in the tenth class not more than 50 percent students should opt for literacy subjects and the rest should be encouraged to study vocational courses of various types according to their interests. This type of vocationalization of education will minimise the unemployment problem, because then the educated person will not depend on some service alone and may utilize his acquired skill for earning his bread.

9) Higher Education : Higher education provides people with opportunity to reflect on the critical social, economic, cultural, moral and spiritual issues facing humanity. It contributes to national development through dissemination of specialized knowledge and skills. It is therefore a crucial factor for survival. Being at the apex of the educational pyramid, it has also a key role in producing teachers for the education system. There are

around 150 universities and about 5,000 colleges in India today. In view of the need to effect an all-round improvement in these institutions, it is proposed that, in the near future, the main emphasis will be on the consolidation of, and expansion of facilities in, the existing institutions. The policy expresses the view that the creation of autonomous departments within the universities on a selective basis will be encouraged. Autonomy and freedom will be accompanied by accountability. Courses and programmes will be redesigned to meet the demands of specialisation better. Research in the universities will be provided enhanced support and steps will be taken to ensure its high quality. Research in Indology, the humanities and social sciences will receive adequate support. To fulfil the need for the synthesis of knowledge, interdisciplinary research will be encouraged. In the interest of greater co-ordination and consistency in policy, sharing of facilities and developing interdisciplinary research, a national body covering higher education in general, agricultural, medical, technical, legal and other professional fields will be set up.

10) Open University : The Open University system has been initiated in order to augment opportunities for higher education and as an instrument of democratising education. These universities are meant for those persons receiving the same in order to better their prospects. The necessity of open universities has been recognised also for expansion of higher education. In an open university any person may obtain , higher education according to his own speed. A certain examination may be passed in parts in an open university. The Indira Gandhi National Open University, established in 1985 in fullfilment of these objectives will be strengthened. This powerful instrument will have to be developed with care and extended with caution.

11) Delinking Degree from Jobs : A beginning will be made in delinking degree from jobs in selected areas. If the compulsoriness of a degree

for securing a job is done away with many youths will automatically refrain from obtaining higher education. Thus crowding of aspirants for admission to colleges and universities will be reduced. In fact, a degree should not be considered as a pre-requisite for a job which has no direct relationship with it. In many foreign countries a degree is not considered as a condition for obtaining job. Oelinking will be applied in services for which a university degree need not be a necessary qualification. But in our county a degree has been made compulsory for a job.

12) Rural University : The new pattern of the Rural University will be consolidated and developed on the lines of Mahatma Gandhi's revolutionary ideas on education so as to take up the challenges of micro planning at grassroot levels for the transformation of rural areas. Institutions and programmes of Gandhian basic education will be supported.

13) Technical and Management Education : Technical and Management Education are the two streams and functioning separately. It is essential to look at them together in view of their close relationship and complementary concerns. The re-organisation of Technical and Management Education should take into account the anticipated scenario by the turn of the century, with specific reference to the likely changes in the economy, social environment, production and ~management processes, the rapid expansion of knowledge and the great advances in science and technology. In order to improve the situation regarding manpower information, the recently set up Technical Manpower Information System will be further developed and strengthened. Continuing education, covering established as well as emerging technologies, will be promoted. Programmes of computer literacy will be organized on wide scale from the school stage. To increase the relevance of managed sectors, the management education system will study and document the Indian experience and create a body of knowledge

and specific educational programmes suited to these sectors.

Research as a means of renovation and renewal of educational processes will be undertaken by all higher technical institutions. Research for development will focus on improving present technologies developing new indigenous ones and enhancing production and productivity. A suitable system for watching and forecasting technology will be setup.

14) Emphasis on Learning : The teacher must not harbour the notion that the child learns through his teaching alone. In fact, the child learns many more things by himself. Therefore, the teachers must not emphasize only by teaching procedures in the class room. Essentially, he should also try to create such an environment in the class and school in general that the children may learn many things through their own creativeness. The prescribed curricula for children do not contain the latest information of the concerned subject. Generally they are four or five years old. So they are not very useful, because they contain incomplete information. Therefore the teacher must inspire the students to learn things on their own as far as possible. The mental development of children should be so guided that they may understand the utility of knowledge themselves.

15) Value Education : The National Policy of Education 1986 has recognised the importance of moral values. The development of healthy moral values in an individual will help to make him depend upon his own efforts and not on his supposed destiny. Education is a tool for bringing in desirable changes in a society. Therefore importance of moral values in life should be pointed out whenever possible in teaching. This method of teaching moral values will be more helpful to students.

16) Preservation of Culture : New Education Policy of 1986 stressed on the preservation of national culture. There appears to be a wide gulf between modern formal education and our cultural traditions. The policy

wants to bridge the gulf, because the scientific and technical developments have to be associated with our proud history and culture. Our system of education should be related with our Fine Arts, Architecture and oriental studies. Hence we shall have to pay particular attention to organisation of museums, folk arts and literature. This policy urges us to do the needful in these directions. Teaching, training and research in these disciplines will be strengthened so as to replenish specialised manpower in them.

17) Science Education : Science education will be strengthened so as to develop in the child well defined abilities and values such as the spirit of inquiry, creativity, objectivity the courage to question, and an aesthetic sensibility. Science education programmes will be designed to enable the learner to acquire problem solving and decision making skills and to discover the relationship of science with health, agriculture, industry and other aspects of daily life. Every effort will be made to extend science education to the vast numbers who have remained outside the pale of formal education.

18) Education and Environment : National Policy of Education stressed that there is a paramount need to create a consciousness of the environment. It must permeate all ages and all sections of society beginning with the child. Environment consciousness should inform teaching in the schools and colleges. This aspect will be integrated in the entire educational process.

19) Sports and Physical Education : In this new policy of education, the importance of sports and physical education has been recognised, because participation in them will maintain the health of children. With this end in view forming of active committees of sports and games has been particularly emphasised. Framing of curriculum of small sports and games has also been suggested.

20) Educational Technology : Modern communication technologies have the potential to bypass several stages and sequences in the process of development encountered in earlier decades. Both the constraints of time and distance at once become manageable. In order to avoid structural dualism, modern educational technology must reach out to the most distant areas and the most deprived sections of beneficiaries simultaneously with the areas of comparative affluence and ready availability. Educational technology will be employed in the spread of useful information, the training and retraining of teachers, to improve quality, sharpen awareness of art and culture, inculcate abiding values etc. both in the formal and non-formal sections. Maximum use will be made of the available infrastructure. In villages without electricity, batteries or solar packs will be used to run the programme. The generation of relevant and culturally compatible educational programmes will form an important component of educational technology, and all available resources in the country will be utilised for this purpose.

21) Media : The media have profound influence on the minds of children as well as adults; some of them tend to encourage consumerism, violence etc. and have a deleterious effect. Radio and Television programmes which clearly militate against proper educational objectives will be prevented. Steps will be taken to discourage such trends in films and other media also. An active movement will be started to promote the production of children's films of high quality and usefulness.

22) Management of Education : An overhaul of the system of planning and the management of education will receive high priority. The guiding considerations will be –

- (a) Evolving a long-term planning and management perspective of education and its integration with the country's developmental and manpower needs;

- (b) Decentralisation and the creation of a spirit of autonomy for educational institutions;
- (c) Giving pre-eminence to people's involvement, including association of non-governmental agencies and voluntary effort;
- (d) Inducting more women in the planning and management of education;
- (e) Establishing the principle of accountability in relation to given objectives and norms;

23) Operation Blackboard : In this new policy of education the term 'Operation Blackboard' has been used for conveying the idea that minimum facilities will be provided to a primary school. These include-

- (i) two reasonably large rooms, which are usable in all weather conditions;
- (ii) blackboards;
- (iii) maps, charts and other learning and play materials;
- (iv) tatpatti (carpet) for seating children and other essential materials;

In the beginning at least two teachers will be appointed for each primary school. Afterwards more teachers may be appointed as new classes are added. In 'Operation Blackboard' the co-operation of voluntary organisations, local bodies and desirous persons will be enlisted. Steps are also proposed to be taken to obtain land for a playground to be attached to the school. It has been emphasised that inexpensive building designs be prepared taking into consideration the agro-climatic conditions and utilising the locally available material: Setting up of village education committees, which will INTER ALIA be responsible for maintaining the school buildings, is also visualised. As regards financial resources to implement the programme, construction of essential buildings for primary schools will be the first

charge on the funds relating to the ongoing schemes of NREP and RLEGP. The entire cost of the operation will be provided by the Central Government.

24) Navodaya Vidyalaya : Recognising the need to provide good education to rural children the National Policy on Education (NPE-1986) conceived the idea of Navodaya Vidyalayas (model schools) as 'pace setting institutions'. The policy states: 'It is universally accepted that children with special talent or aptitude should be provided opportunities to proceed at a faster pace through quality education, irrespective of their capacity to pay for it' .

Pace setting schools intended to serve this purpose are being established in various parts of the country on a given pattern, but with full scope for innovation and experimentation. Their broad aims will be to promote excellence coupled with equity and social justice (with reservation for SC/ STs), to foster national integration by providing opportunities to talented children, largely from rural areas in different parts of the country, to live and learn together, to develop their full potential and, most important, to become catalysts of a nation-wide programme of school improvement. The schools will be residential and free of charge.

A Navodaya Vidyalaya Samiti, an autonomous organisation in the Ministry of Human Resource Development has been set up. These schools are affiliated to the Central Board of Secondary. Education, Delhi.

The Central Government bears 100 percent expenditure for running these institutions and it is the responsibility of the State Governments to provide a plot of land, about 30 acres in area, free of cost.

Eventually the Central Government plans to open one such school in every district. This target is likely to be achieved by the end of the 7th Five Year Plan in 1990.

Point to Remember : 3

1. Government of India formulate a new education policy in 1986.
2. Through this policy Government of India want to introduce innovative concept in every aspect of secondary education.
3. Role of education is the main key of national development, so in the policy we have got national objectives of education.
4. The policy emphasized vocationalization of education particularly in secondary stage of education.
5. Operation Black Board' and 'Navodaya Vidyalaya' scheme are the special aspects of National Policy of Education 1986.

Activity 3

1. In which year New Education Policy is approved in the Parliament?
2. What was the expression of New Education Policy on 'Education for Equality'?
3. What do you understand about 'Early Childhood Care and Education'?
4. Write briefly the main features included in the New Education Policy of 1986.
5. What are the aspects included in the New Education Policy 1986?
6. What is 'Operation Blackboard'?
7. Mention the characteristics of 'Navodaya Vidyalaya'.

DEVELOPMENT OF SECONDARY EDUCATION IN ASSAM AFTER INDEPENDENCE

After independence some important steps are taken by the government to modernize the secondary education system of Assam. As a result of this standard and quality of education 'are developed and some changes are takes place in the administrative system of education. Necessary Act and provisions are made, self administrative education ,authorities are established for this purpose. National level committees like Mudaliar Commission (1952-53), Kothari Commission (1964-66), National Education Policy (1986) recommendations has played significant role in the development and controlling process of secondary education of Assam.

After independence the number of secondary schools are increased rapidly in different parts of India. But in the case of Assam it was not happened. The speed of development was slow in Assam so numbers of secondary schools was not increased. Secondary education system of Assam was controlled by Calcutta University since 1926 along with entrance examination. Gauhati University was established in 1948 and controlling power of secondary education transfered from Calcutta University to Gauhati University.

In 1962. Secondary Education Board of Assam was established as a result of the recommendations of Mudaliar Commission 1952-53. Since then the controlling power of secondary education come under the Secondary Education Board of Assam. The office of the board is located in Gauhati. During this time 67 high schools were upgraded to higher secondary school on the basis of recommendation of Mudaliar Commission. Secondary Board of Education Assam control two examinations from the time of establishment. First one is Matriculation or present High School Leaving Certificate

Examination. The second one is Higher Secondary Examination. Presently Higher Secondary courses and examinations are controlling by Assam Higher Secondary Education Council.

According to the recommendations of Mudaliar Commission Government of Assam decided to change some high school into multipurpose schools.

Name of the schools converted to multipurpose school :

1. Dibrugarh Girls High School - Science and Home Science
2. Tezpur Girls High School - Home Science - Craft education
3. T. C. Girls High School - Home Science and Craft Science
4. Jorhat Government School - Science and Technical
5. Goalpara Government School - Science and Technical
6. Kohima Government School - Technical and Home Science
7. Tura Government School- Agriculture and Home Science
8. Dason Government School - Technical and Commerce (Nawgong)
9. Jowai Government School - Agriculture and Home Science
10. Aizwal Government School - Commerce and Home Science
11. Marigaon Aided School - Science and Agriculture
12. Chariali Aided School- Technical and Agriculture
13. Sibsagar Government School - Science and Technical

The number of pupils of the age group 11-14 and 14-18 also registered a sharp increase from 65113 and 31003 in 1947-48 to 301357 and 198119 respectively in 1964-65. During 1960-61 25.3% of the pupils of the age group 11-14 and 12.2% of the age group 14-18 were in school. During the second and third plan periods 67 high schools were converted into higher secondary schools .

Secondary Education Act of Assam, 1961 : In 1961 the Secondary Education Act of Assam was passed which provided for the following :

1. It extends to the whole of Assam.
2. The university or any board will have no controlling authority over the secondary schools recognised by the Government.
3. By a special notice government will constitute 'Board of Secondary Education' for the control, management and development of secondary education.
4. A Board of Secondary Education will be constituted with the following members-
 - a) D. P. I. - Chairman
 - b) Additional D. P. I.
 - c) Director, Agriculture
 - d) D. P. I. (Technical)
 - e) Director of -health services
 - f) Director of industry
 - g) Principal, Agricultural College
 - h) Director of Education of other states or regions
 - i) Deans of Faculty of Arts and Science, Gauhati and Dibrugarh Universities
 - j) D. D. P. I. in charge of female education
 - k) One Inspector of Schools
 - l) Two Principals of high and higher secondary schools
 - m) Two Head Mistresses
 - n) One Superintendent of High Madrassah
 - o) Two members selected by the G.U.
 - p) One Principal of teacher training college
 - q) One Principal of Polytechnic

5. The secretary of the board will be appointed by the government. Since 1962 the newly formed Board of Secondary Education has taken charge of controlling and reorganizing secondary education in Assam. The total number of higher secondary and multi-purpose schools of Assam was 70 and the total number of high schools 1200 in 1969-70. Few measures taken by the Govt. for the improvement of secondary education were -

1. Raising of pay of secondary school teachers according to the recommendation of the pay committee of 1964.
2. Measures taken for the improvement of internal administration of schools.
3. Enforcement of effective measures for inspection and supervision.
4. The Secondary Education Act was passed in 1961.
5. Number of scholarships for general and schedule caste and backward students were increased.
6. Scholarships and awards for girls reading in, secondary schools were also increased.
7. A number of training colleges for secondary school teachers were started.

Prior to 1962 secondary education in Assam was controlled by the Gauhati University and the Government of Assam. The university had control over the academic matters while the Government had control over the administrative matters. Thus dual control over secondary education gave rise to various administrative problems and other difficulties.

Power and Functions of the Board :

1. Board will prepare the curriculum for secondary and higher secondary education.
2. Examinations will be conducted on the basis of this curriculum.
3. Permission will be granted to appear examination who have completed their course. If anybody violate the rules they will be punished.
4. Results will be declared.
5. Certificate will be issued who have success in examination.
6. Rules and regulations of admission and examination will decided by the board along with the fees structure.
7. Provision of scholarship and prizes will be fixed by the board and distribute it.
8. Selection of text books and reference books and its preparation and publication will be the responsibility of the board.
9. Board will prepare the rules and regulations of recognition of high school and higher secondary schools. When necessity arise board have the power to de-recognise the schools.
10. The rules and regulations which are fixed by the board must be followed by the schools. If any school violate or dis-obey it they will be punished.
11. Board will examine and study the problems of secondary education.

12. Board will prepare the rules related to physical, social and discipline matters of the students of recognized schools.
13. Board will decide the necessary eligibility criteria of teachers for recognized schools.
14. Board will prepare the curriculum of under graduate teachers training institute and conduct examination.
15. Recognition and de-recognition of teacher training institute will be the responsibility of the board.
16. Board will organize in-service-training for teachers and the seminar.
17. Board will receive the donations from Government, institute and the individuals .
18. Board will seek the report from the Director of Education Department about the conditions of Aided Schools and permitted schools.
19. Board can advice the government on the re-organisation and development of secondary education or other necessary aspects.
20. Board will appoint officers, employees and decide their service condition, pension system, provident fund and gratuity etc.
21. If necessary arise board can transfer own poser to other committes.
22. Take the responsibilities of school fund for secondary education.

Government of Assam vested the responsibilities of extension of education, administration, control and development of secondary education to Secondary Education Board of Assam. Board will manage all the schools

which are recognised by the department of education. Recognitionless school cannot claim anything from the department of education and the students are not eligible to get scholarships. Recognitionless school cannot send their students to Matriculate Examination and they are not eligible to enjoy other facilities.

The Act came into force with effect from January 1962 and the first board was constituted with D. P. I. of Assam as chairman (Ex officio) and N. Islam, Inspector, Central Assam as secretary. The Act was amended in 1972 when it was laid down that the Board is to prepare and publish textbooks and supplementary books through the Assam Text Book Production and Publication Corporation. Second amendment was made in July 1973 which provided for the appointment of a full-time chairman. The Board adopted the new curriculum and syllabi from the academic session 1973-74. Along with the change over in the high school classes the Board made a change over to higher secondary education from old four year course to a two year course from 1973. With the adoption of the new pattern of education (10+2+3) as recommended by the Kothari Commission, attention has been focussed on school education which includes the +2 stage.

As regards the number of schools, the total number of recognised high schools was 830 in 1974. During the period from 1974-76, more than 170 high schools have been recognised and 157 schools were permitted to open classes IX and X. As regards High Madrassah the number securing recognition of the Board stood at 18 only in 1974. As regards Higher Secondary schools at the end of the year 1976-77 the number was

Since 1973 twelve year course has been implemented- in the state of Assam and the number of schools following 12 year course is 63. The Universities of Gauhati and Dibrugarh have abolished the one year P U. course and introduced two year P U. course.

The Govt. of Assam provincialized all the high schools and higher secondary schools which enjoyed deficit grant from 1st October 1977. The number of such schools are 2401. Out of this 46 are higher secondary, 688 are high schools and high madrassahs and 1667 middle schools. Moreover 71 high schools were brought under deficit grant system. Decision was taken to bring 722 Middle English schools and Madrassah under the said system.

On the basis of the recommendations of Kothari Commission Government of Assam constituted Assam Higher Secondary Education Council in 1984. As a results of this all the responsibilities of higher secondary education (Management, control and administration) transferred from Secondary Education Board of Assam to Assam Higher Secondary Education Council. With these councils have the power of preparation and publication of text books, curriculum construction and management of examinations. New education policy formulated in the year 1986. On the basis of this policy in each districts of Assam established one 'Navodaya Vidyalaya' to develop the secondary education among the meritorious children of rural level.

Secondary Education Commission 1952-53, Kothari Commission 1964-66 and the National Policy of Education 1986 stressed on the vationalization of secondary education. Vocationalization of secondary education can prepare youths for the future society.

Point to Remember : 5

1. Secondary education system of Assam was developed on the basis of the recommendations of Mudaliar Commission 1952-53, Kothari Commission 1964-66 and New Education Policy of 1986.
2. Open school, open university and directorate of distance education was established in Assam for the extension of distance education.
3. Government of Assam established one open university and named it as 'Krishna Kanta Handique State Open University' at Gauhati in 2007.
4. Secondary Education Act of Assam passed in 1961.
5. Assam Higher Secondary Education Council was established in 1984.

Activity 5

1. When Secondary Board of Education Assam was constituted?
2. Write the name of multipurpose school as transformed on the basis of the recommendations of Mudaliar Commission 1952-53?
3. Write the name of the four secondary school which were recognised first in Assam as Higher Secondary School.
4. Write the four provisions of Assam Secondary Education Act 1961.
5. Mention the four functions of Secondary Board of Education Assam.

Problems of Secondary Education in Assam :

Secondary education acts as a connecting link between the primary and higher stage of education. It influences both primary and higher education. But it is very unfortunate that this important stage of education in Assam suffers from different problems and continues to be the weakest. Some important problems of secondary education in Assam are as follows-

1. Lack of mass appeal : Secondary education does not have mass appeal. We have accorded priority to primary education as well as higher education. But secondary education has not received due attention.

2. Lack of enough resources or finance: Finance is the greatest hurdle in the field of secondary education in Assam. The financial allocation to secondary education is not sufficient. So it is a challenge to our educational planners because they will have to work under constraints of growing numbers and limited resources made available for it. So its quality remains poor.

3. Unplanned expansion : Unplanned expansion is another important problem of secondary education in Assam. Now primary education has lost its job value and social demand of secondary education is increased. The government and private agencies tried to meet the social demand for secondary education by opening more and more schools. Many of these schools were allowed to function at sub-standard levels which led to dilution of standard.

4. Inappropriate curriculum : The secondary school curriculum is not appropriate to fulfil the needs of the students as well as of the society. Curriculum of secondary education is not related to the real and practical

life of students. They follow the curriculum mechanically without interest, curiosity, understanding or appreciations.

5. Defective teaching methods : In no secondary schools we will find dynamic methods being followed. The average teacher suffers from lack of professional preparation. The existing educational system is rigid and does not encourage initiatives, creativity and experimentation.

6. Defective text book : The quality of text books, teachers guides and teaching materials is not satisfactory.

7. Improper evaluation system : The evaluation system of secondary education is not free from evil. It is basically dominated by external examination.

8. Lack of capable teacher : The quality of teaching stuff in schools is not satisfactory. In many of the privately managed schools the situation is dangerous.

Besides the problems of management and administration, discipline, lack of physical facilities etc. are the main shortcomings of secondary education in Assam.

Points to remember :

The important problems of secondary education in Assam are :

- Lack of mass appeal
- Lack of resources
- Unplanned expansions
- Defective curriculam
- Defective method of teaching
- Defective Text-book
- Impower evaluation
- Untrained teacher
- In sufficient physical facilities
- Defective management

SUMMARY

The stage of secondary education is one of the important stage of education. Secondary education is related with the third stage of human life. This stage is significant from the economic, social, cultural and political point of view. So, most of the educationist of the world advised to give more interest on this period.

Government of India appointed Secondary Education Commission in 1952-53 under the leadership of Laksmanswami Mudaliar. The commission studied all the aspects of secondary education of the country and determined the following aims of education-

1. Development of personality
2. Education for leadership
3. Development of Democratic Citizenship
4. Education for Character Formation
5. Improvement of Vocational Efficiency and Capacity

For the development of National System of education in India one Commission was appointed in 1964-66 under the leadership of D. S. Kothari. So, this commission is known as Kothari Commission. Present education system of India developed according to this commission is known as Kothari Commission. Present education system of India developed according to the recommendations of Kothari commission. The commission recommended 10+2+3 formula for National of education. Ten years school education, two years (+2) pre-degree or higher secondary education and three years degree course included in the formula. The commission stressed on the development of standard and structure of education. The commission recommended for organization of school level education, high school education, higher

secondary education and transfer of pre-university stage. Kothari Commission advocates vocational education and recommended for its extension. The commission recommended' for common school system, work experience, development of productivity and scientific modern education.

New Education Policy or National Policy of Education formulated in 1986. This policy of education want to bring newness in all the aspects of education. The main features of the policy are role of education will be the main key, equality of education includes women education, education of schedule caste and schedule tribe and education of other backward classes, adult education, early childhood care and education, primary education, non-formal education, secondary education, vocationalization of education, higher education, open university, de linking degree from jobs, rural university, technical and management education, emphasis on learning, value education, preservation of culture, science education, education and environment, sports and physical education, educational technology, media, management education, operation blackboard and Navodaya Vidyalaya.

After independence the field of secondary education of Assam developed on the basis of the recommendations of. Mudaliar Commission 1952-53, Kothari Commission 1964-66 and New education Policy 1986. But there are different problems of secondary education in Assam.

QUESTIONS

1. What is Secondary Education? With which stage of human life this education is related? Give a brief statement.
2. Write briefly about the aims of education which are determined by the Secondary Education Commission 1952-53.

3. Who was the Chairman of 1952-53 Commission? What should be the aims of education according to this commission?
4. What are the aims of education for secondary education mentioned in the Mudaliar Commission 1952-53? Write.
5. Are the aims of education determined by the Mudaliar Commission (1952-53) implemented in Indian Education System? Discuss.
6. Write in very short:
 - a) In which year India got her independence?
 - b) Who was the chairman of Secondary Education Commission 1952-53?
 - c) In which year Mudaliar Commission appointed?
 - d) Mention two aims of education as mentioned in the Mudaliar Commission for secondary education.
7. Mention the aims of secondary education determined by the Mudaliar Commission 1952-53.
8. What are the aims of education mentioned in the Kothari Commission (1964-66) for National Development of India?
9. What are the recommendations given by the Kothari Commission (1964-66) on the structural process of Indian education? Explain.
10. What are the objectives of Kothari Commission (1964-66)? What type of structure recommended by this commission for education.
11. Explain the new structural process of education recommended by Kothari Commission (1964-66) on school system of India.
12. What type of change of structural process of secondary education mentioned in Indian Education Commission 1964-66?

13. Write briefly:
 - a) 10+2+3 formula
 - b) Aims of National Education (1964-66 Commission)
 - c) Work experience
 - d) School complex
14. Explain briefly about the inner outlook of 10+2+3 formula of Kothari Commission.
15. What were the opinion of Kothari. Commission 1964-66 on vocationalization of education? Explain.
16. Write briefly:
 - a) Vocationalization of Education
 - b) Structural process of education
17. Explain about the development of secondary education of Assam after independence.
18. Write the main provisions of Assam Secondary Education Act 1961 .
19. Mention the functions of Secondary Education Board of Assam or Assam Secondary Education Board.
20. Discuss about the main problems of secondary education in Assam.
21. Write shortly :
 - a) Mention -the name of the four schools which had got recognition first as higher secondary school of Assam.
 - b) Which are the secondary schools transformed into multipurpose school?

22. Write briefly the main features of National Education Policy 1986.
23. Write short notes on :
 - a) Equality of education for women
 - b) Delinking degree from job
 - c) Adult education
 - d) Open education
 - e) Navodaya Vidyalaya
 - f) Operation blackboard scheme
 - g) Early childhood care and education
 - h) Vocationalization of education
 - i) Integrated Child Development Services Programme
 - j) Autonomy in Higher Education
24. What is equality in education? What are the provision mentioned in the National Polity of education 1986 for its execution?
25. Why National Policy of education 1986 prepared? Explain.
26. Explain the main objectives of National Policy of education 1986.



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UNIT - 2

NON-FORMAL EDUCATION

CONTENT :

(A) Non-formal Education :

- Introduction
- Meaning of Non-formal Education (NFE)
- Definitions of Non-formal Education.
- Objectives of Non-formal Education
- Characteristics/Salient features NFE.
- Scope of NFE.
- Need and Importance.

(B) Correspondance Education :

(C) Distance and Open Education :

- Meaning of Distance Education.
- Definitions of Distance Education.
- Nature of Distance Education.

(D) Open Education :

- Objectives of Open Education
- Necessity of open Education

- Open School
- Open University.
- Objectives of Open University.
- Characteristics of Open University.
- National policy of Education 1986 and Open University.
- Merits of Open Education.
- Demerits of Open Education.

OBJECTIVES :

After studying this unit students will be able to -

- ◆ Define non-formal education.
- ◆ Describe the meaning, scope, objectives and importance of non- formal education
- ◆ Enumerate the characteristics of non-formal education.
- ◆ Describe meaning, definitions and nature of distance education.
- ◆ Discuss about objectives of open education.
- ◆ Discuss about the merits and demerits of open education.
- ◆ Explain necessity of open school.
- ◆ Explain the concept of open university.
- ◆ Describe the objective and development of open university.
- ◆ State the recommendations of National Policy of education 1986 regarding open university.

A. NON-FORMAL EDUCATION :

Introduction :

Non-formal education has emerged as one of the alternatives of formal system of education. It is a need-based education in a free atmosphere. It is developed as a result of our interest in making education a life-long affair rather than a matter of formal schooling. It has been accepted as complementary and supplementary to the formal education which aimed at development of productivity and improvement of quality of life at the individual as well as national level. In this chapter we are going to discuss about this system of education along with distance and open education as two important agency of non- formal education.

Meaning of Non-formal Education :

The concept 'Non-formal Education' has a recent origin. It is yet in the developing stage. The concept of Non-formal Education differs from person to person and from place to place. To many persons it is just the opposite for formal education which is given in the school, to some it is only supplementary to formal school system. In the beginning Non-formal education was meant for dropouts. But now it is intended for all. It would meet the need of school dropouts, neoliterates, working women and above all child labour, disadvantaged groups alike. Being linked with general development, it help its students to learn various skills besides numeracy and literacy. Non-formal education provides various learn inexpensive. But

this system is structured and planned realm of formal education.

Definitions of Non-formal Education :

Different thinkers define non-formal education from different point of view. Some important definitions of this system of education are mentioned below :

(1) According to Coombs and Manzood Ahmed : Non-formal Education is “——— any organized, systematic, educational activity carried on outside the framework of the formal system to provide selected types of learning to particular sub-groups in the population, adults as well as children.”

(2) According to La Bella : “..... non-formal educational programmes, designed to provide specific learning experiences for specific large populations.”

(3) According to J. P. Naik : “It (non-formal education) differs from formal education in the sense that it takes place outside for formal school system. It also differ from incidental education in that it is organized.

(4) Adisheshaiah has given the definition of non-formal education as : “The non formal education is wide ranging because it comprehends all learning outside of formal system and has no parameters of time and space.”

From the above definitions we can conclude that non-formal education is organized, systematic, need-based and goal-directed education. It is conducted outside the formal system which is directed to meet the specific needs of various groups of persons.

Points to remember :

- Non-formal Education is one of the recent concepts.
- It has been accepted as complementing and supplementing to the formal education.
- It is outside the realm of Formal Education.
- It is conscious and deliberate.
- It is organized and systematic.
- To be organized for a homogeneous group.
- Serving the need of the identified group.
- It is highly flexible and inexpensive.
- Serving the need of the identified group.

Objective on non-formal Education :

UNESCO has enunciated the following objectives of non-formal education:

- To promote awareness for literacy programme for national and individual development.
- To establish national infrastructure needs and provide for manpower requirement.
- To provide equal educational opportunity to all and equitable distribution of national income and employment avenues.
- To mobilize existing and potential local resources in the community.
- To facilitate transfer of appropriate technology to more need based areas of activity.
- To make social and community education programmes need the demands of rapidly industrializing societies and

- To promote non-formal programmes as direct, links to productive skills and tangible gains.

Characteristics/Salient Features of Non-formal Education:

The important characteristics or salient features of non- formal education may be stated as under -

- (1) Non-formal education is organized education outside the formal system.
- (2) Opposed to formal system which is too rigid, the non-formal education programmes tend to be flexible as regards time, place, duration, attendance, syllabi, methods and evaluation etc.
- (3) Programmes of non- formal education tend to be diverse and functional.
- (4) It is a cost effective system of education.
- (5) It has flexible point of entry and exit.
- (6) It is a life-long system of education.
- (7) It is aimed at human development. These programmes are generally built around developmental tasks and its objectives is to help people to help themselves.
- (8) Non-formal education is need-based. People participate in a programme only if they find it relevant and interesting and worth their time and effort.
- (9) Those joining non-formal education would not care for degrees, diplomas and certificates.
- (10) The teacher taught relationship avoids dominant. Thus in this system teacher and taught are partners in the learning process.

Thus in conclusion we can say that non-formal education by its very nature is flexible. It tends itself to be as many adaptation as there might be situations and needs. But it does not implies that non-formal education is incidental education, it is an organized programme of education. The focus of non-formal education in on the learners needs and interests and provides resources and help for learning as far as possible at one's own pace.

Points to remember :

Main characteristics of Non-formal Educations are

- It is outside the formal system.
- Flexible
- Diverse and functional.
- Cost-effective
- Flexible point of entry and exit
- Provide life long education
- Aimed at human development
- Need-based
- Primarily not for degree or diploma
- Not dominated by teacher.

Scope of Non-formal Education :

Scope of non formal education is very vast. . It covers various levels of education ranging from pre-primary to university education. It comprises all areas of formal education. It provides new knowledge, understanding, interests, skills, critical thinking, appreciation etc.

Non-formal education complements formal system of education. It

exploits the time and resources of the individual and develop innate potentialities the maximum.

The non-formal education can include within school education other kinds of professional and vocational programme like community development, farming agriculture extension, technical training etc. It is meant for all for whom formal education is either unsuitable, or unavailable.

Non-formal education may be class-room activities or distance Education or correspondence course. It may on the job, part time, fulltime as well as recurrent.

Need and Importance of Non-formal Education :

Non-formal education is an alternative system of education. Most of the limitations of existing formal system of education are controlled in this system. It is governed by the principles of democracy.

It is needed by all countries. This system of education is helpful to create a learning society to provide life-long education to all. It reduce the cost and improve the efficiency of the formal system of education. It makes education available to those groups who are now outside the educational system and to relate education effectively to development. This system increase individual efficiency. Non-formal education has therefore to be provided in our country on account of the following needs.

- (1) To universalize elementary education.
- (2) To meet constraints of resource.
- (3) To serve the scatted and scarcely populated area.
- (4) To meet inadequacy of formal education.
- (5) To enable the pupils to learn while he earns.

- (6) To meet the needs of late-bloomers
- (7) To provide education to socially Economically Drip rived classes of the society.

Point of remember :

Main importance of Non-formal Education.

- Based on democratic principles.
- Provides life-long education
- Reduce 'cost of education
- Relate education to development
- Increase individual efficiency.
- Provides educational opportunities to Late-bloomer, dropouts and to the deprived classes.
- Provide opportunity for on-the-job education.

B. CORRESPONDANCE EDUCATION :

Education has to be provided to all children as well as adults, no matter where they are compelled to live. As a result correspondance education is taken up as an effective alternative system of providing education at all level and to a varied group. It has the same educational philosophy and goals as the formal system of education has, but it differs from the formal system in the means, the method and the target group.

Thus, those cannot join regular courses due to economic or academic factors join the correspondence courses. Thus, in some institution two streams are open for those students who wish to pursue their studies who wish to pursue their studies-through regular courses or through correspondance courses.

Correspondance education is a system through which individual may complete a prescribed courses of study offered by an institution without attending to its classes. The educational transaction in this method is facilitated by the medium of print which is conducted with the help of postal system. As a result, this system, affords the learner considerable independence with regard to both place and time of study. Examination, evaluation and certification of the learner on completion of their course are also made by the authority concerned.

This system of education was first introduced by Issae Pitman in 1840 to provide his 'short hand' course to the students living at distance places. In 1898, Hens Hermod published his first correspondence course on book-keeping. Many others soon followed him. In India, the government of India appointed a Committee on Correspondence Courses and Evening Colleges in 1961 under the chairmanship of D.S. Kothari. The committee recommended the introduction of correspondence courses and as a result of it, University of Delhi started Correspondence Courses in 1962.

Objective of correspondence education :

The objectives of correspondence education is to provide -

- (1) An alternative mode of educating a large number of people with necessary motivation to acquire further and to better their expertise and improve their professional efficiency.
- (2) To provide equity of educational opportunity.
- (3) To make education free from rigidity of time and space.
- (4) To provide a cost-effective system of education to educate the masses.
- (5) To reduce the pressure on formal education.

(6) To fulfil the aspirations of the persons who were working and wish to enhance their qualifications.

In short correspondence education is the most vital and major avenue.

This system of education in India could play an important role in expanding democratising, regularising and equalizing educational opportunities. It is helpful for the weaker sections of our society. This system of education has great potential to develop and serve, not only traditional courses but also a wide range of vocational and job-oriented courses. We may say that the correspondence education provided opportunities to the people who could not get opportunities for formal education, to school dropouts, to those who wished to enhance their qualifications by remaining gainfully employed, to the adults and aged people and to the financially poor.

C. DISTANCE EDUCATION

Meaning of Distance Education: Education is considered to be the most forceful instrument of development. Therefore it reaches all people living in any part of the country. Distance Education helps the economically weaker sections and the people who are busy with day to day livelihood and donot have time to spend in universities and colleges in -order to receive education. It denotes the forms of study not led by teachers present in classrooms but supported by tutors and an organisation at a distance from the learner. Distance Education, is simply and broadly defined by Manjulika S. and V. Reddy as the system of education in which education is imparted to students from a distance. It contains two basic elements (a) the physical separation of teacher and learner; and (b) the changed role of the teacher who may meet the students only for selected tasks such as counselling,

giving tuitions or solving students' problems. The system is heavily dependent today upon the print material or instructional material, supplemented partly by the electronic media, radio, television, and computer, in addition to limited face-to-face contact sessions.

Distance learning lends itself to a variety of interpretations which empowers it as a concept. 'Distance Education' is an umbrella term which indicates the tangible distance between the learner and the teacher where the process of teaching and learning is not confined to the four walls of the classroom any more. With its horizontal mobility, Distance Education transcends the barriers of time, space, sex, creed, community and religion, thus breaking the myth of elitism in conventional higher education.

Distance Education methods can be successfully used for relating to groups who, for geographical, economic, or social reasons, are unable or unwilling to make use of traditional/conventional provision of education.

Distance Education has had different nomenclatures given to it by different authorities in different countries, Moore names it 'telematic teaching', Deling calls it 'distance study', Sims as 'correspondence education', Holmberg as 'distance education', and so on. The terms 'Distance' Education' and 'Home Study' are used in Europe and a few places in Canada and the USA, 'Independent Study' is used in North America, 'Off-campus Study' in Australia, the Pacific Region, and South-East Asian countries and 'Extra-mural System' in New Zealand, etc. However, all definitions of Distance Education usually emphasise that it is distinct from conventional education.

Definitions of Distance Education : Distance Education is defined differently by different thinkers in different situation. We can mention here a few of them to make the meaning clear.

According to **Dohmen-** "A systematically organised form of self study

in which student counselling, the presentation organised form of self study in which student's success is carried out by a team of teachers, each of whom has responsibilities. It is made possible at a distance by means of media which can cover long distances."

According to Moore - "The family of instructional methods in which the teaching

behaviours are performed apart from learning behaviours, including those that in a contiguous situation would be performed in the learner's presence so that communication between the teacher and the learner must be facilitated by print, electronic, mechanical or other devices."

According to **Wedemeyer**- "Independent study consists of various forms of teaching-learning arrangements in which teachers and learners carry out their essential tasks and responsibilities apart from one another, communicating in a variety of ways. Its purposes are to free on campus or internal learners from inappropriate class placing or patterns to provide of campus or external learners with the opportunity to continue learning in their own environments, and developing in all learners the capacity to carry on self-directed learning, the ultimate maturity required of the educated person."

According to **Peters**- "A method of importing knowledge, skills and attitudes which is rationalised by the application of division of labour and organisational principles as well as by the extensive use of technical media specially for the purpose of reproducing high quality teaching material which makes it possible to instruct great numbers of students at the same time wherever they live. It is an industrialised form of teaching and learning."

According to **Holmberg**- "The various forms of study at all levels which are not under continuous, immediate supervision of tutors present

with their students in lecture rooms on the same premises, but which, nevertheless, benefit from the planning, guidance and tuition of a tutorial organisation.”

Nature of Distance Education : Distance education is significant in nature. Otto Peters has attempted to present the following as special features of Distance Education-

- In traditional education a teacher teaches. In Distance Education an institution teaches. This is a radical difference. In traditional education the teacher is present in the lecture room with students and his success often depends on the rapport he can build up with students; personality and even idiosyncrasies may be central. In Distance Education the teacher prepares’ learning materials from which he himself may never teach. Another teacher may use the materials and evaluate students’ work.
- In Distance Education the goal of linking of learning materials to learning is the centre of the organisational structure. In conventional education the ‘intersubjectivity’ that R.S.Peters saw as central to the teaching/learning process is automatically set up. In Distance Education this ‘intersubjectivity’ is lacking and there can be no guarantee that anything will happen once learning materials have been developed and dispatched to the student.

Administrators of Distance Education systems who consider that distance education is merely a ‘fringe form of traditional education’ often forget to provide this linking. They feel that once the learning materials have been developed and despatched to the student the job is done: learning will occur. In Distance Education there is no basis for this unless a successful linking

system is provided. Even then questions on the quantity of learning, and the status of the learning remain for solution.

- From the student's point of view there are important differences between the two systems of education. The distance system gives a radical new meaning to the concept of the independence of the adult learner. In this system he is responsible for initiating the learning process and, to a large extent, for maintaining it throughout. Questions of motivation and skill acquisition, of a specifically different kind to those required in traditional education, need to be tackled to combat the phenomena of non-starters and dropouts that have been a feature of this type of education throughout the last one hundred years.
- Management skills that are more akin to those found in industrialised enterprises are needed in Distance Education. The distance system has daily preoccupations with lead times, deadlines, print runs, job schedules, type faces, warehousing, delivery. And despatch and planning decisions on educational priorities that must take place two, three or more years before teaching is to take place. Such preoccupations are not normally characteristic of educational administrators.
- Distance Education is a form of education that can easily become depersonalised both for staff and students. Students are not invited to Milton Keynes or to many of the Distance Education institutions throughout the world. There is little doubt that the absence of students can create a strained atmosphere for lectures. The constant process of writing creatively for distance students, whether alone or in a course team framework, poses problems, which are not

fully resolved even in those institutions where the lecturer has some responsibilities for on-campus students as well. . The marking of distance students' work, even when relieved by face-to-face seminars, telephone tuition and work for radio or television has a definite propensity for staff disillusionment.

D. OPEN EDUCATION :

Objectives of Open Education : The objectives and importance of the open system of education can be realised by studying the discussion of the Indian Education Commission of 1964-66. The objectives of open education system may be discussed as given below :

- (i) To offer educational opportunities to the deprived classes and masses and to cope with the ever increasing demands.
- (ii) To help to decrease the disparities and imbalance growth in the society.
- (iii) To widening the horizons of education, opening new frontiers of knowledge and democratising the teaching learning process.
- (iv) To find out an alternative and economical approach to the formal system of education.
- (v) To bridge the gulf between the educated few and uneducated masses of our society.
- (vi) To help to achieve the mission of a learning society.
- (vii) To impart education at the individual's convenience, and to help the individuals utilise their leisure for educational purpose. (viii) To help to continue work and education without any break.

Necessity of Open Education : Extension of education has a dire necessity in modern society. To meet this need open school system evolved

in society. Due to limitations of formal education a good number of people deprived from education. Most of the people of our society are under poverty, so they are not in a position to get education in time. In addition to them there are some disable families, illiterate guardians, remote areas, communicationless areas, early marriages system and the people of conservative attitude. Economically backward people engaged their children in work in early stage. Formal education system has no pace to include them. To meet their demand open school is necessary in our society.

In present society alongwith art and culture science and technology developed immencely. Its scope has widely extended. In every field of the society explosion of knowledge has take place. Due to arrival of new discovery old knowledge and datas are going to be useless. In present context explosion knowledge has no limitations and traditional system of education is not fit to meet the social demand. So, innovative approaches are developing in a new outlook. Open education system is an innovative process of education. Traditional education has strict rules and regulation, permanent location, fix time table and age bar. As a result of this challenging attitude outbreak in the society. The open education movement overthrows all the attitudes and meet the general need of the society.

Open School : Open school system is a significant concept of modem society for the extension of education. Open schools are established to give minimum education particularly school drop-outs, working adults; housewives and socio-economically backward section of the society. Open school offers a parallel non-formal system as an alternative to formal schooling. With the help of distance teaching method, it offers preparatory courses for enabling learners to take up secondary, vocational and technical level courses. Open school give instruction to students through printed lessons, audio tapes and

multimedia instructional materials. Open school may also broadcast lessons on radio and television.

The entry system of the open school is open to all who are desirous of learning. There is no upper age limit and qualification bar for admission to open school. Any person who have completed the age of 14 year can join in school level courses. The scheme of studies of the open school is flexible. The learner can select subjects by their own choice.

After completion of the course the learner can appear examination.

The examination system is flexible one. The open school examination is held twice a year, during March/April and September/October. Evaluation process of open school is very attractive. It is one of the important agency of open education system and educational agency other than formal agency.

Open system of education was started in school level lately. The Patrachar Vidyalaya of the Directorate of Education, Delhi Administration took initiative in starting correspondence course for the secondary school level examination. A number of Boards of Secondary Education have already started correspondence education for High School Examination and Secondary Teachers Training Examination. The open school at Delhi has started its activities in July, 1979. Since then it has preparing' students for appearing at the Central Board Examinations through its specially prepared instructional materials, students assignments face-to-face contacts and other multi-media programme. Gradually the open system of education has become very popular and it is accepted as an alternative system of education. To offer educational opportunities to the poor and deprived classes of our society is the prime objectives of the open schools.

Open University : Open University system is an important venture of the system of education. The formal system of teaching in schools and

colleges could not tackle the problem of educating school drop-outs, working adults, house-wives and learners from socio-economically disadvantaged sections of the society. There was a dire necessity for an alternative system. The Open University is one such alternative for taking education to the doorsteps of those who are desirous of learning. Open University offers a parallel nonformal system as an alternative to formal education. Open university provides the opportunity of education to out of institution learners, school dropouts, working adults, house-wives and learners from disadvantaged sections of the society living in villages and remote areas of the country. Open University offers an open entry system. There is no restriction on the upper age limit.

The course materials of the open university are designed of a very high order. Students are supplied by instructional materials in time. Most of the instructions are imparted through distance mode rather than face to face communication, well tested and scientifically developed pedagogy of distance education is employed. For the instructional purpose printed lessons, audio and video cassetts are being used.

Objectives of Open University : The main objectives are -

- (i) To provide higher education on a large scale to all people who have missed the chance in their early years.
- (ii) To advance and disseminate learning and knowledge by a diversity of means including the use of communication technology.
- (iii) To promote educational well-being of the community generally.
- (iv) To help to continue work and education all together.

The objectives of the Open Universities as the means of distance education may be made, clear by the following observations of Professor **G Ram Reddy**. In his article, '**Education from a Distance**', published in the

Journal 'Education' Vol. 66 No.3. March, 1986. Professor Reddy writes, "The objects of an Open University" are- To Provide greater equality of opportunity of access to higher education, to provide educational opportunities for those who missed such opportunities when they were young and joined careers, to provide opportunities to those adults who would like to have access of higher education throughout their lives, and to help those who want to learn new subjects or renew or update their knowledge while in service."

Characteristics of Open University : The characteristics of the Open University are the following:

- (i) The Open University is an independent institution.
- (ii) The Open University is a self governing distance teaching institution which awards its own degree, diplomas and certificates.
- (iii) In Open University, students do not attend a campus, but learn at home in their own time from specially written booklets known (SLM) as course units, recommended text books, radio and television broadcasts and other audio-visual material, and home experiment kits for do-it-yourself experiments.
- (iv) In addition to the following exercises, in Open University a certain amount of face-to-face tuition at the study centres, at annual summer sitting held.
- (v) In Open University students are encouraged to meet in self-help groups throughout the year.

National Policy of Education 1986 and Open University : For the wide extension of open university education National Policy of Education 1986 stressed on the following:

- (a) Open education is started to increase the facilities of higher education on democratic ideal.
- (b) Indira Gandhi National Open University which is established in

1985 will be strengthened to reach the destination of higher education.

- (c) This open university must go ahead and carefully handle it for extension.
- (d) Indira Gandhi National Open University must play pivotal role in the quality development of open education institutions of the country.
- (e) All the provinces will establish open university in their own area. If they want to get facilities in national level IGNOU will meet this necessities through its legislation and co-ordination.
- (f) All the open universities of the country must have relationship among them. If the learners of an open university want they can enrol them in other open “university of the country.
- (g) All the state open university must maintain standard and quality. They can take the help of IGNOU in the development of their programmes.
- (h) At the” time of establishment of open university in the province the planner must follow appropriate project for the restoration of quality.
- (i) All the provincial open universities (state) will be able to get necessary resources and other facilities.
- (j) IGNOU will disburse grants in aid as financial assistance to the state open universities and the departments of distance education programme.

Merits of the Open Education : The merits of the open education system are the following:

- (i) Through this system of education higher education brings to the door step of needy person. Specially it help working persons, employees, housewives and the peoples of conservative attitudes.

- (ii) Open education system facilitates the people of Remote areas, Hilly areas, Rural areas, Drop outs, Adults who are not entitled to get education in time.
- (iii) Fees structure of this system of education is moderate so, most of the people are interested for it. Its expenditure is one third ($\frac{1}{2}$) of general education.
- (iv) Admission system of this type of education is very easy and eligibility criterias are flexible.
- (v) This system of education have more flexibility in time factor of the courses. For a one year course learner can avail four years to complete the course.
- (vi) All the courses of this type of education are meaningful and well organized. Courses are effective, applicable and useful.
- (vii) At the time of organization of the course of this system of education inter-disciplinary approaches are included.
- (viii) Most of the courses of this type of education are job oriented and related with service.
- (ix) This type of education supplied Self Learning Materials (SLM) to the learners, so it encourage the learner for 'Self Study'. Class notes and lecture are not necessary for them.
- (x) All the course materials are prepared by experienced professor, experts, specialist and the knowledgeable person of the discipline.
- (xi) Evaluation process of this system of education is continuous and comprehensive. It stressed on the self activities of the learner.
- (xii) There is a provision of personal contact programme and counselling system in this type of education.

Demerits of Open Education : The demerits of the open education system are the following:

- (i) The number of study centres of the this system of education are small, so difficulty arises in its extension.
- (ii) Disadvantaged group of the society are not eligible to get more facilities from this system.
- (iii) All the remote areas and underdeveloped areas are not totally touched by this system of education.
- (iv) Most of the courses of this system of education are of high standard so it has limitation in urban areas.
- (v) Only middle class of the society, are benefited from this system of education.
- (vi) All the study centres of this system of education are not well equiped. Number of facilitators are less' and all the counsellors are not experienced.
- (vii) The time of Personal Contact Programmes (PCP) are not sufficient in this system of education, so learners are not benefitted.
- (viii) There are no more differences between the learning method of open system of education and formal system of education.
- (ix) Counselling method and reproduction process of this system of education are not sufficient.
- (x) All the Regional Centres and Directorate of Distance Education and Open Learning are not fully active and helpful.

- (xi) Evaluators and the counsellors of this system of education has not sent their evaluation sheet in time so learners are suffering a lots.
- (xii) Most of the learners of this system has not got SLM or study materials and the assignment list in time. As a result of this, learner cannot complete their course in fixed time.

Point to Remember : 4

1. The main aspects of distance education are
 - (a) Learner centric education
 - (b) Indirect education and
 - (c) Real life centric education.
2. To execute distance education importance must be given on 'Self Study'.
3. Open education system developed in our society due to limitations of the formal education.
4. There is no any obstruction in the admission process of open school and it has no proper classroom.
5. Open University system is one of the important venture of extension system of education.
6. 'Arnbedkar Andhrapradesh Open University' was the first open university of India.
7. 'Indira Gandhi National Open University' was established in 1985 in New Delhi the capital of India.

SUMMARY

Non-formal education is one of the recent concepts. This system of education is deliberate, conscious, organised and systematic. It is highly flexible and inexpensive. Non-formal education provide life long education. It is a need-based education. It provides functional education. Nonformal education is based on democratic principles. It provides educational opportunities to late-bloomer, dropouts and to the deprived classes.

Distance education system is an innovative venture in the field of modern education. This innovative concept want to include all in the field of education. This concept of education include three aspects- (a) Learner Centric Education (b) Indirect Education (c) Education for real life situation. Dohmen's definition of distance education is more significant among all the definitions of distance education. To make the distance education effective 'self study' method must be implemented. Distance education is one type of formal education. Open education is a significant concept of modern education. Generally open education is evolved in the society as a result of the limitations of formal education. Open system of education can meet the need of all type of people of the society. Open schools are established as an institution of alternative education. There is no bar in the process of admission and hard and fast rule in eligibility. Particular classroom is not necessary for open school. The fees structure of the open school is moderate, so weaker section of the society get more benefit from it. Open university is one of the important venture of extension system. Open university execute open concept in admission system and it has no more bar in age limit. The concept of open university developed first in England. Open university help the people

who want to continue their education in service period, collect new knowledge and renew their old knowledge. It also help the people who want to get upto-date knowledge of the present context. ‘Ambedkar Andhrapradesh Open University’ was the first open university of India. Government of India established Indira Gandhi National Open University in 1985. It is located in Maidan Garhi of the capital city Delhi. In Assam Krishna Kanta Handique State Open University was established in 2007. New Education Policy of 1986 stressed on open university education.

QUESTION

1. Explain the meaning of Non-formal education.
2. Give some definitions of Non-formal education.
3. What are the salient features of non-formal education.
4. Discuss about the importance of non-formal education.
5. Explain the scope of non-formal education.
6. What do you understand by Distance Education?
7. Give a definition of Distance Education.
8. What is Open Education?
9. Who can be the learner of open school?
10. What are the objectives of establishment of open school?
11. When and where the first open university established?
12. In which year Indira Gandhi National Open University was established?
13. Write the name of the open university of Assam.



UNIT - 3

CURRENT TRENDS IN EDUCATION

CONTENT :

- **Objects**

- **Objectives :**

- **Introduction :**

(A) Environmental Education :

- ◆ Meaning and definitions of the term 'Environment' .
- ◆ Content of Environmental education
- ◆ Definition of Environmental education
- ◆ Need of Environmental education
- ◆ Principles of Environmental education
- ◆ Scope of Environmental education

(B) Population Education :

- ◆ Meaning and definition Population education
- ◆ Characteristic of Population education
- ◆ Need of Population education
- ◆ Population education in educational institutions

(C) Physical Education :

- ◆ Meaning and definitions of physical education institutions
- ◆ Need and importance of physical education
- ◆ Physical education in school

(D) Value Education :

- Meaning and definitions of Values
- Concept of Value education
- Characteristics of Value education
- Need and importance of Value education
- Value education in school

(E) Women Empowerment :

- Concept of women empowerment
- Definition of woman empowerment
- Status of woman in Indian Education system
- Education for woman empowerment

OBJECTIVES :

In this unit students will learn about environmental education, population education, physical education, value education and women empowerment. Through the study of “**Environment Education**” students will be

- aware and sensitive to the total environment and its allied problems.
- Gain a basic understanding of the total environment, its associated problems and humanity’s critical responsible presence and role in it.
- able to achieve a set values and feelings of concern for the environment and in motivation for activity participating in environment importance and protection.
- able to acquire skills for working towards the solution of environmental problems.

- develop a sense of responsibility and urgency regarding environmental problems to ensure appropriate action to help solve these problems

With the help of “Population education” you will

- acquire knowledge on rapid growth of population, its causes, trends, some factors affecting it and ways for regularity it.
- be able to students the influence of population trends on various aspects of life.
- be able to appreciate the fact that for preserving the health of the month, the welfare of children, the economic stability of the family, the Indian families should be small and compact.
- realise the influence of family on social change.
- admit the “Small family is a happy family”.

Though Physical education you will

- acquire knowledge on all round development of an individual
- be able to understand the ways and means which lead to physical mental and evaluation development.
- be able to develop personal and social qualities that will live happily with others arid build up a good citizen.
- be able to know about
 - (a) physical fitness, social efficiency and culture
 - (b) health, worthy use of leisure time and ethical character
 - (c) development and its different aspects such as organic, neuromuscular, intellectual, emotional and social
- be able to develop a positive and healthy attitude life

With the help of value education, you will

- acquire knowledge on certain guiding principles of life
- know different aspects of personality development – aesthetic, intellectual, moral, social and spiritual.
- be able to inculcate proper habit, attitudes and character.
- know certain educational programmes that will be help in the realisation of the vision of the society.
- be able to develop social and vocational efficiency.
- be able to inculcate ideas about national integration

Through “Woman empowerment” you will

- realise that opportunity should be given to women for expressing their talents.
- be able to help them becoming eligible for availing all facilities.
- acquire knowledge on creation of self esteem and development of self confidence.
- be able to help woman in taking part in development activities, thereby enabling them to contribute to the development of the society.

INTRODUCTION :

In this unit you will learn about environmental education, population education, physical education, value education and woman empowerment. You know that environmental education is education through the:: environment, about the environment and for the environment. It is an integrated process which deals with man's interrelationship with the nature. Population education refers to an educational process which helps individuals to learn about population, partially the nature, causes and consequences of population events. Physical education is one of the most important factors in promoting health and longevity of the people. It helps the people to become physically fit and to develop their spiritual and mortal forces. It increases the scope of human abilities, enriches the life of the individual and that of the society as a whole. Value education refers to the educational programme which is geared for the good of the individual and the society.

Empowerment is a process which helps in recognising inherent abilities that an individual have. It makes one efficient in talking good decision at the right time and in the right place. Women contributes a lot to the society. Women empowerment means, not only in challenging but eliminating all the obstacles that come in the way of progressive development of women folk.

A. ENVIRONMENTAL EDUCATION

Meaning and definitions of the term 'Environment':

We all know that "Environment" is the circumstances or condition that surround an organism or a group or a group of organisms. It is the sum total

of all social. Economic, biological, physical or chemical factors which constitute the environment, who is the moulder of his environment. It covers all the outside conditions and factors that have acted on the individual since he began life.

According to Me Grow Hill Encyclopedia of Environment Science (1975)

“Environment” is all conditions and affects, jointly affecting life and development of all creatures from an Environment”.

Dauglass and Holland holds that

The term “Environment” is said to describe in the aggregate all the external forces, influences and conditions, which affect the life, nature, behavior and the growth, development and maturity of living organisms” .

The most comprehensive definition of “Environment” came out in the whole of the intergovernmental conference of “Environmental Education” (Tbilisi, USSR, 1977). Accordingly, environment is consider to consists of a “Whole set of natural and social systems in which man and other organisms lives and from which draw their sustance”.

Environment can be divided into three parts -

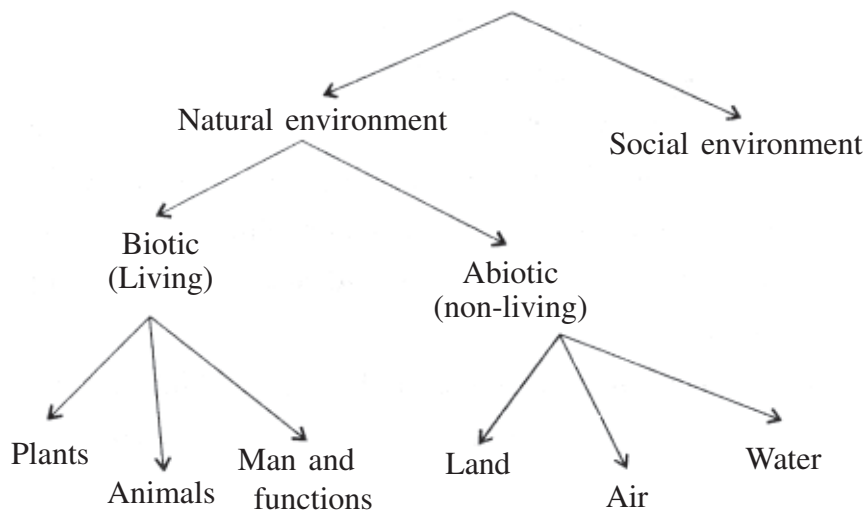
Natural Environment : It includes air, water, tree, forests, rivers, plants etc.

Social Environment : It includes all the socio-economic influence affecting mankind as population growth, employment, culture etc.

Man made Environment : It include village, city, institutions, industries, roads, buildings, agriculture, transport etc.

Point to know :

The word “Environment” has been derived from the French word “Environer”. It means “to surround” or “to encircle”.

Point to Remember**Content of Environmental education :**

Now the question arises since environment is well known to us, what can be environmental education, why is it required to study this subject, what can be the aims and objectives of environmental education and what areas or aspects are covered within the scope of Environmental education.

Do you Know? (Point to Know)

In 1869, Eames Macked of Germany for the first time introduced the concept of environmental consciousness.

Activity - 1

- Observe how the pollution of air, water and soil has affected in the maintenance of proper health among individuals.
- Mention how population explosion has spread out pollution in nature.

Environmental education is an education through the environment about the environment and for the environment. Through the various activities, teaching learning can be carried out. The child can learn about the environment i.e.. physical environment, cultural environment, social environment through subjects like Geography, History etc. In so far as teaching 'for' environment is concerned, it means controlling the environment - proper use and conservation of resources and also involves control of environmental population.

Environmental education is an integrated process which deals with man's interrelationship with his natural and man-made surroundings, including population growth, population, resource allocation and depletion, conservation, technology for urban and rural planning to the human environment. It is a study of factors influencing ecosystems, mental and physical growth, Population pressure and so on. It is not a separate branch of science or field of study. It should be carried out according to the principles of life long integrated education.

Do you know? (Point to know)

Every year 5th June is celebrated as the world Environment (Conservation) Day.

Defination of Environmental education

Environmental education has been defined in a number of ways: Proceedings of the organisation of American State Conference on Education and Environment in America, 1971, stated that “Environmental Education involves teaching about values, judgements and the ability to think clearly about complex problems about the Environment-which are as political, economical and phylosophical as they are technical”.

R. A. Sharma (1996) said

“Environmental Education refers to the awareness of physical and cultural environment and perceive its relevance for real life situation”.

Need of Environmental Education

Environmental education helps students in understanding the cordial relationship that developes between man and environment. It provides knowledge on the environment, associated problems and role of individuals in it.

Belgrade conference describe the goal of environmental education as follows-

“To develop a world population that is aware of, and concerned about the environment and its associated problems and which has the knowledge, skills, attitudes, motivations and commitment to work individually and collectively towards solutions of current problems and the prevention of new ones”.

Activity :

Discuss in what other areas environmental education is considered as essential.

Do you know :

The objectives of environmental education as mentioned in the workshop held on Environmental Education for Asian Countries (1989).

1. Acquire basic understanding of the interrelationship of components and factors of the environment and the processes that occur in it.
2. Develop desirable values and attitudes, especial concern and responsibility towards the conservation and enhancement of the environment.
3. Acquire and refine skills in identifying, assessing and solving environmental problems.
4. Develop a sense of urgency in responding to environmental issues and problems and taking actions towards their solution.

Principles of Environmental Education :

1. Environmental education helps in programing learning experiences from simple to complex. For e.g. children look at a bird, see it eating figs or insects or watch it flying. All this gives them some awareness of the eating and flying habits of birds.
2. Environmental education helps children to, proceed from indefinite. Ideas to definite ones. An infant for e.g. is not able to distinguish between colours, but as it grows, it learns to discriminate among different shades.
3. Environmental education helps children to proceed from concrete to abstract. Since environment is full of concrete things which children

may examine and classify and interpret and then draw their own conclusions and inferences about them.

4. Environmental education has social relevance - relevance to man's interaction with his physical and social environment, its relevance to changing human attitudes which cause man to hate man and beget hatred on one or the other ground namely caste, creed, colour and religion etc.

Do you know?

Tbilisi Conference (1977) USSR has said that all the subject from Science and Humanities should be included in Environmental education. These subject include : Technology, Economics, Political Science, Moral Science etc. This education should be regarded as life 'long education.

Scope of the Environmental Education

The scope of environmental education is so wide that covers various aspects of nature ecological, cultural, technologies, economical, legal, educational and commercial.

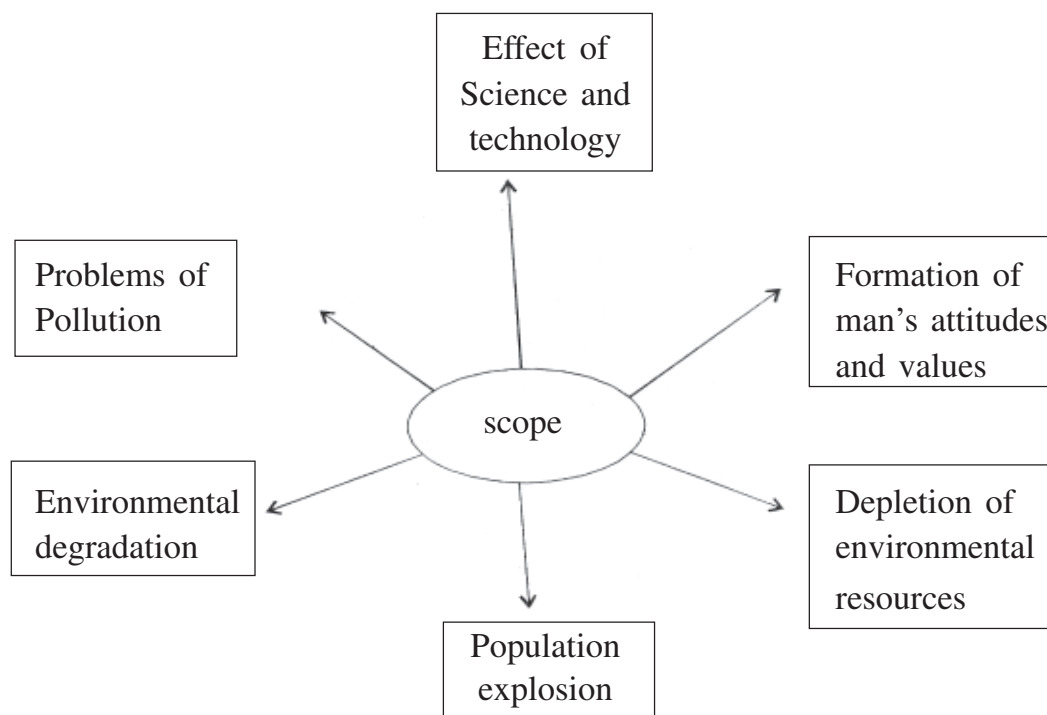
1. A lot of teaching learning can be carried out through environment. Natural environment like flowers, insects, breeze, birds and many other historical, culture and social places fascinate man day in and day out. Instead of teaching the topic in the classroom, children can be taught through environment.
2. Man has to tackle his environment everyday for his survival, sustenance and prosperity. He cannot escape it under any circumstances, right from birth to death. He is born in a family and is brought up by the family which is a primary group for him. After infancy, he attains the stage of childhood adolescence,

adulthood. It is, therefore, in one's own interest that one should learn about environment, more so the immediate one. It is very necessary to know about several other features of natural environment which affects man's health and hygiene.

Environment is a source of happiness to man and his happiness will be heightened if he learns to love and appreciate nature.

Another aspects of environmental education is education for environment. Environment during the present century has undergone revolution population has exploded, physical resources are being increasingly depleted avoid technological growth has created air, water and noise pollution. We can feel that the world is moving headlong towards disaster, perhaps we may soon destroy ourselves. It is, therefore, very urgent that we may diagnose this malady and adopt preventive and curative measures.

Scope of environmental education may be highlighted as follows-



B. POPULATION EDUCATION

Meaning and definition of Population education :

You may already know that according to 2001 census report the number of Indian population is 1,028 million. Among the world population 16.7% are Indian. In India, itself Uttar Pradesh has the highest number of population (166 million) while Sikkim has the lowest number of population (0.5 million). You will be surprised to know that Lakshyadeep has only 60,000 population. Can you imagine how population explosion has created the problem of food, shelter and Clothes?

In order to stay away from these problem, that is, to know the after effect of population explosion we should have the concept of “Population Education”.

“Population Education” is a programme through which the rate of increasing population, problem arising out of them, solution of the problems and the ways of controlling population can be known.

Do you know?

The concept of “Population Education” was developed by the American Sociologist and Nobel Peace award winner “Alva Myrdal” in the year 1982.

Definition :

Some definition of population education are :

Burbson said

“Population education is an exploration of knowledge and attitudes about population, the family and sex”.

In the South-East Asia Regional workshop, held in Bangkok (in 1970) UNESCO declared

“Population Education is an educational programme which provide for a study of the population, situation of the family, community, nation and world, with the purpose of developing in the students rational and responsible attitudes and behaviour towards that situation”.

According to Gopal Rao :

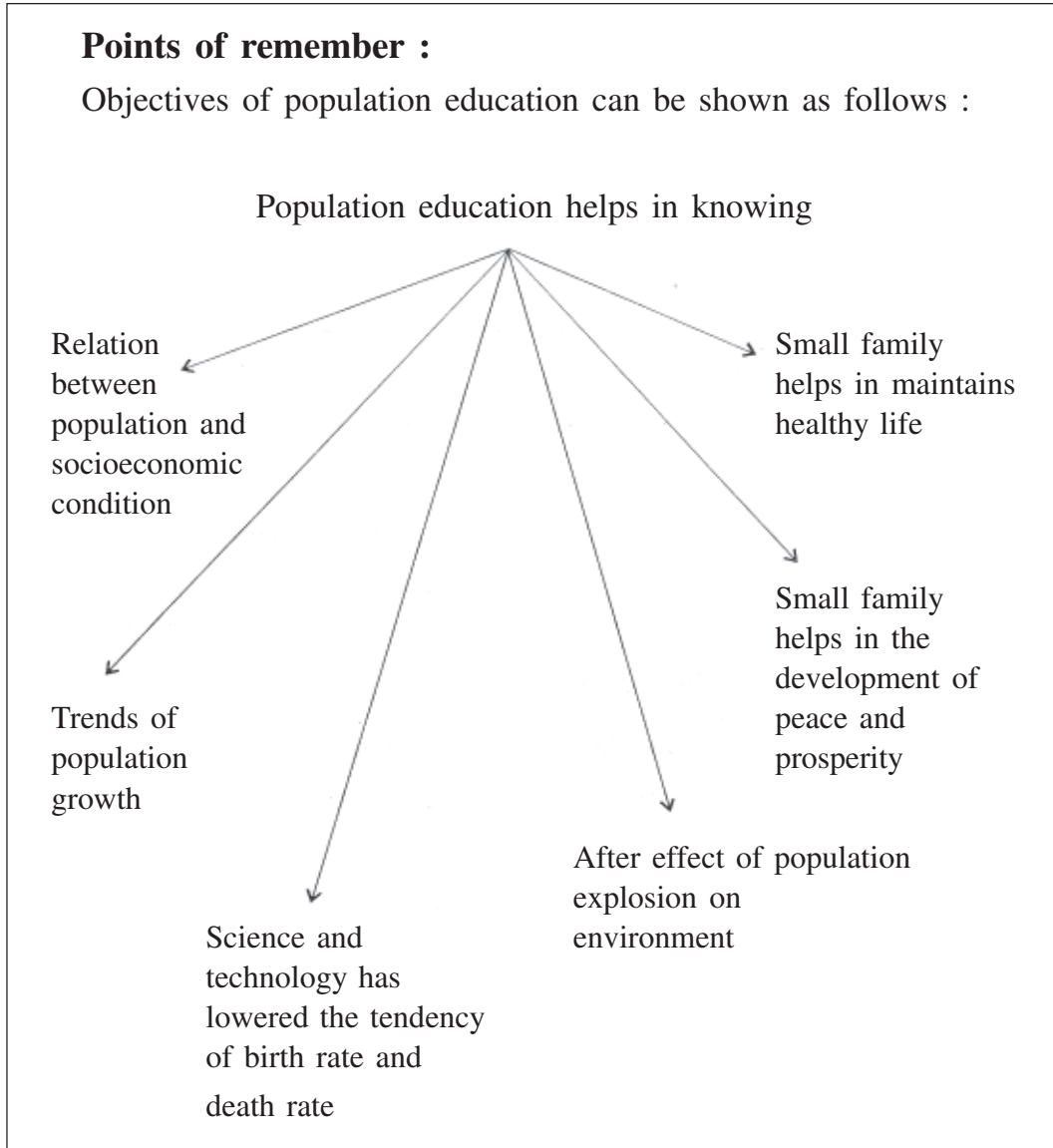
“Population education may be defined as an educational Programme which provides for a study of the population phenomenon so as to enable the students to take rational decisions towards problems arising out of rapid population growth.

Activity :

Collect some definitions of “Population education” and observe in what aspects the philosophers and educational thinkers have given special importance?

Do you know?

On 11th May 2000 the Indian Government had declared that the total number of population was 100 crore. In the same year to control population the Government passed “Population Policy”.



Characteristics of Population education :

Following are the main characteristics of Population education:

- Population education is included in the Policy of Human Resource Development.

- It helps in the quantitative and qualitative development of a country.
- It is a part of environmental education
- The scope of population education is broader than the sex education.

Activity :

- Discuss effect of population explosion on natural and social life.
- Discuss-” Population explosion has created constraints in combating malnutrition of children in India.

Need of Population Education :

- Population education helps in removing blind believes that exists in the minds of people. For the maintance of quality life this education is very essential.
- Population education is essential for improving quality of general education
- Population education studies on the problems arising from population explosion and the measures to cope with them.
- Population education helps in establishing equality of sexes by helping women to acquire their rightful status and become equal to their made counterparts.
- It is essential for creating a responsible citizen.

Activity :

Discuss the areas in which population education is applicable.

Population education in educational Institutions :

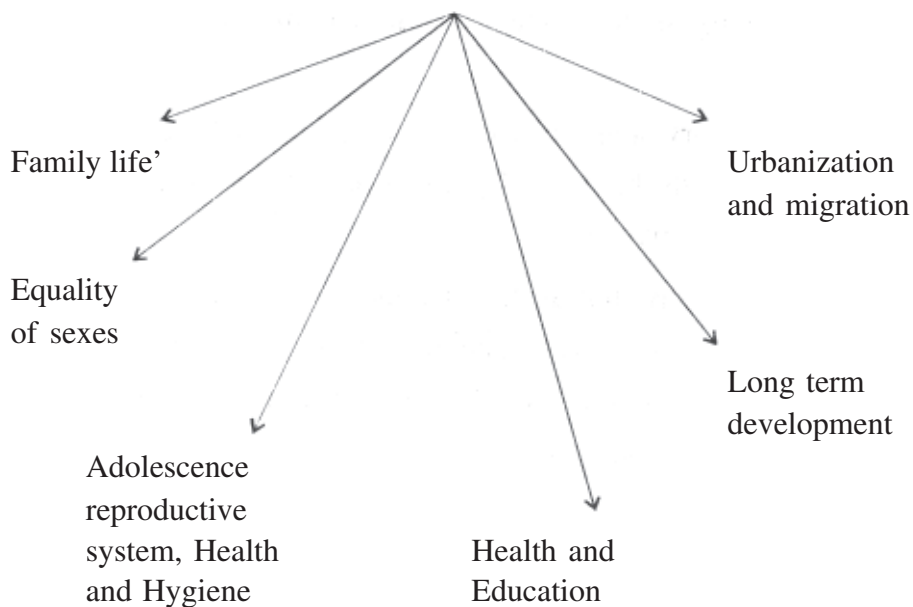
- In 1971, NCERT declared that population education should be started at the primary school stage continued till the secondary stage.
- At the primary stage concept of small family should be given to the children
- At the secondary stage, historical background of increasing population along with the data of population growth of different countries should be given.
- Some thinkers say that at the secondary stage “Population education” should be given as a separate subject. The other thinkers say that it should be given through different topics or chapters of few subjects. For e.g. through History - Knowledge of developmental trend of population can be given and through literature problems arising out of population explosion can be shown. Sex education should be given to the adolescents.
- At the college levels, knowledge on different parts of the body should be given. Concept of reproductive system should be included in the courses of study.
- Research scholars can do research work on “Population”
- Population education can be included as a subject in different training centers.

Activity :

Make a comparative study between the population of India and other countries.

Parts of remember :

In the International Conference held in 1993 and 1994, NCERT . Said for inclusion of six subjects in the course of Population education. They are

**C. PHYSICAL EDUCATION****Meaning and definations of physical education institutions:**

The concept of physical education is not new. It is a part of general education. The aim of this education is to make all round development of an individual including physical, mental, moral, emotional and social development etc. Aristatle said that education is nothing but the development of a sound mind in a sound body. For proper mental development one has to be physically fit and for physical fitness physical education is very essential.

The term 'physical education' is indeed complex and broad based. In the beginning, physical education was used in terms of physical activities, because physical education was essential for the 'people to survive. But the main stress on physical education was laid down in ancient Greece. Even in India, physical activities were regarded as an essential part of life in ancient time. The meaning of the term changed during changing civilisation. It is regarded at present as the education through physical activities for the development of the total personality of a child to its potential and perfection in body, mind and spirit.

Points to remember :

Physical education enables the child to have total physical growth and development to lead a happy and prosperous life. It not only helps in physical development but also helps in mental, social and emotional development of an individual.

Definitions of Physical education :

Cassidy said

“Physical education is the sum of changes in the individual caused by experiences centering motor activity.

According to **J B Nash**,

“Physical education is that phase of the whole field of education that deals with big muscles activities and their related responses.

Nixons and Cazens said

“Physical education should be defined as that phase of the

whole process of education which is concerned with the vigorous muscular activities and related responses and with the modifications in the individual resultant from these responses”.

According to Brownell

“Physical education is the accumulation of whole some experience through participation in large muscle activities that promote optimum growth and development”.

Need and Importance of Physical Education

Nowadays, every individual remains under anxiety, stress and tension which ultimately lead to depression. In the state of depression, an individual can not think about leading a normal life. Depression degenerates all the systems of. Our body. If we want to remain healthy, we will have to adopt physical education.

UNSECO adopted an international charter on physical education that states

“Every human being should have the fundamental right of access to physical education and sports, which is essential for the full development of his personality. Physical education must be guaranteed with education system and also in every aspect of social life”.

Rousseau said

“Physical education is the sound constitution of the body, that makes the operation of mind easy and certain”.

According to **Plato**, “Sound mind dwells in sound body”.

Montague Avers says

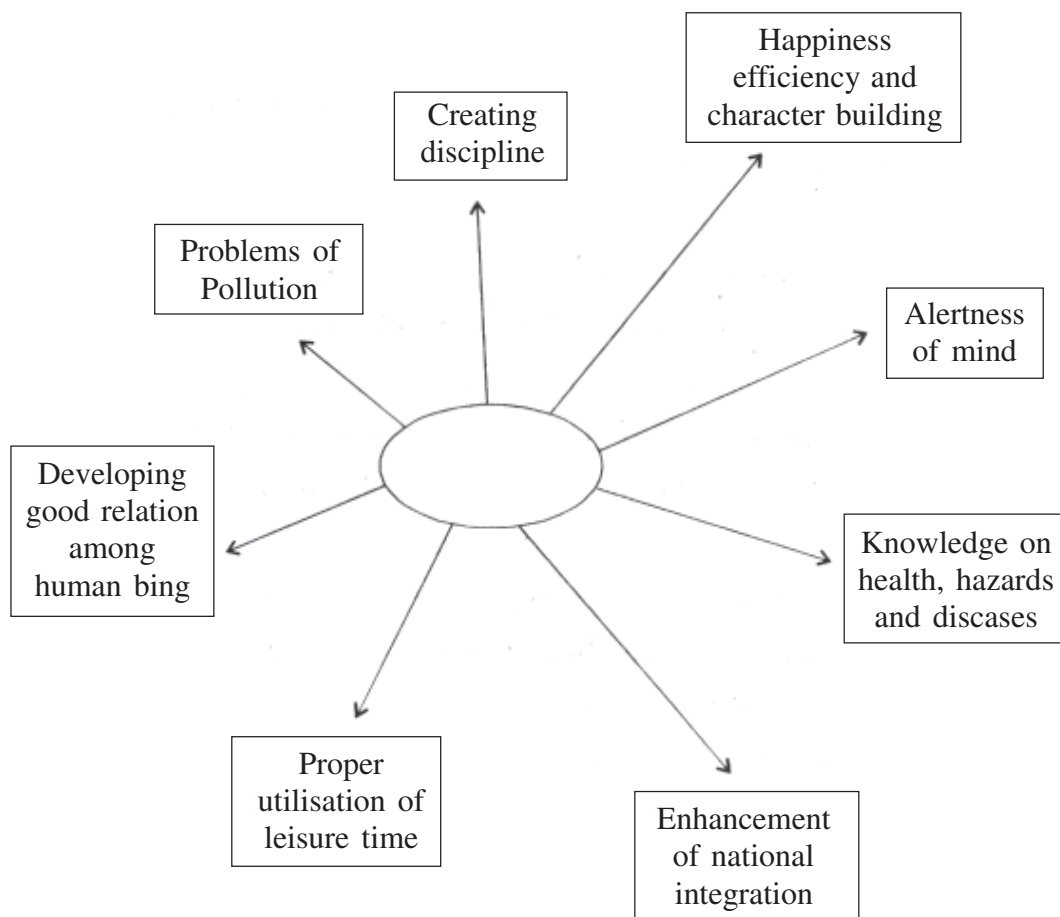
“Physical education does neither train up the soul nor body,
but the whole man”.

The following points may clearly show the importance of Physical education :

- ◆ Physical education is helpful in developing the alertness of mind, **because** alertness and concentration are essential in various programmes of physical education such as wrestling, kabaddi, cricket etc. One becomes alert by participating in the activities of physical education.
- ◆ Physical education is a good source of knowledge about health, its hazards and diseases.
- ◆ Physical education plays a vital role in the enhancement of national integration. Games and sports provide ample opportunities to work together, which ultimately enhance national integration.
- ◆ Proper utilisation of leisure time can be made possible with the help of physical activities stress and tension can be avoided by participating in physical activities including recreational activities.
- ◆ Physical education helps in developing good relation among human beings. Qualities like co operation, sympathy, poverty etc. are developed through it.
- ◆ Physical education helps in promoting .emotional development. Aggressiveness, stress, tension can be controlled through physical activities. It provides a number of opportunities to enhance the power of tolerance.

- ◆ Physical education helps in creating discipline. It enhances all the essential traits which are required for human beings for the development of the personality.
- ◆ Physical education result in happiness, efficiency and character building. It enables a person to face hardships, realities and hazards with graceful manner.
- ◆ Physical education develops certain qualities like perseverance, team spirit, team leadership, obedience to rules etc.

Importance of Physical education can be shown in the following way



Physical education in school :

It is said that physical education should be included in the first ten, years of school education. For the proper development of body, mind and spirit, health and physical education including games and sports should be included in both the courses and evaluation of performance of the students.

At the upper primary stage, exercises, gymnastics, athletics, judo, yoga, drill. Scouting and guiding, should be introduced. These options should be made available subject to the facilities available and the learners performance. In health education, provision should be made for creation among learners an awarness related to common health problems, safety measure nutritional problems, first aid, sanitation and pollution.

At the high school stage, athletics, gymnastics, yoga, meditation, swimming etc. are to be included in the course of physical education camping and various team games and competitions should be Introduced in

both upper primary and high school stage. NCC, guiding, scouting, social service should be added to the compulsory programmes of physical education. In health education stress should be given on maintance of proper health, impact of environmental pollution on health, food and nutrition, control and prevention of diseases and so on.

Physical education at the different stages of school education can be shown as follows-

High school stage	}	athletics, gymnastics, yoga exercises, meditation, judo swimming etc.
Upper primary stage		Exercise, gymnastics, athletics, aquatic, judo, yoga, drill, scouting and guiding etc.

Do you know?

NCERT in “National Curriculum Framework for school Education (2000)” introduced “games and sports”, “Yoga and meditation”, “Scouting, Guiding, NCC and Red-cross”. It is said that students involvement in these activities would constructively channelise their energies and also promote and integrate learning in different curricular areas directly or indirectly.

Activity :

- At what age physical education should be started in school discuss.
- In there any necessity for introducing physical education in higher secondary level?

D. VALUE EDUCATION - Concept and its importance**Meaning and definitions of Values :**

You might sometimes wonder what the true meaning of certain things such as value life, death, truth, goodness or beauty are.

In actual, value can not be defined. It express the significance which a man ascribes to matters related to a particular activity or experience or to his life. Values are nothing but concepts that develop in the mind of an individual. They are established by judgements. Both subjective and objective elements are inherent here. Values provide an individual guideline for behaviour. They are standard or guideline for a nation that guide its politics.

Do you know?

A German philosopher Feriedrich Nietzsche (1844-1900) is said to have used the word “values” for the first time in 1880.

According to John Dewey

“Value means primarily to prize, to esteem, to appraise, to estimate. It means the act of cherishing something, holding it and also the act of passing judgement upon the nature.....”

Allport has defined value as

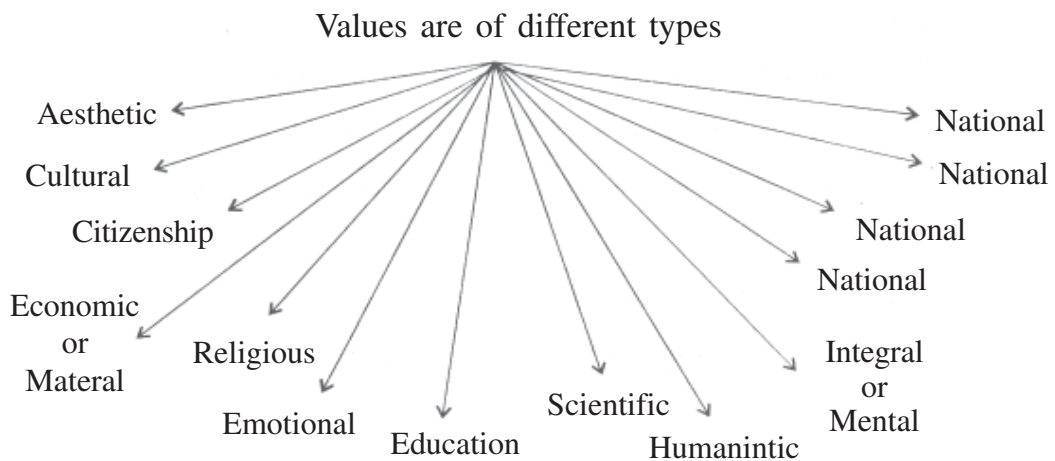
“a belief upon which a man acts by preference”.

Different school of Philosophy regard value in a different way-

Idealists believe that values substantially exists, man values them because they are realities and part of our life.

Naturalists believe that values are found in nature and are discovered by man.

Pragmatists believe that values are not pre-exististent or fixed absolute in themselves. Man creates them according to circumstance and environment.



Points to remember

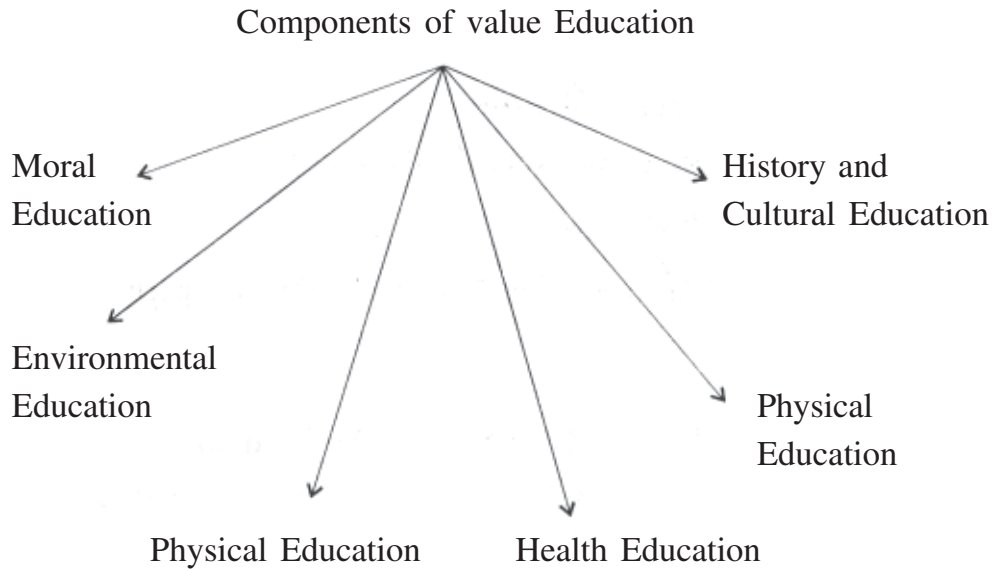
A value is what is desired or what is sought. Values are certain guiding principles of life that help in the physical, mental and social development of the individual. They are in tune with ones culture.

Concept of Value Education

Education for human values or value education refers to the educational programme which is geared to the realisation of the society as envisaged in its constitution for the good of the society and the individual. It covers all aspects of the personality development aesthetic, intellectual, moral, social and spiritual.

Characteristics of value education

- value education is a comprehensive process,
- Value education is a process of direct as well as indirect inculcation of proper habits, the development of proper attitudes, sensibilities and characters of the learners.
- Value education is related to the ‘good’ of every individual.
This education helps in the realisation of the vision of the society.
- Family, school, peer group, community, media and general ethos of the society influences on the development of values.



Need and Importance of value education:

Aim of education is not only instruction in the subjects but the formation of good character. It is said that value education should be placed at a priority level in the syllabus.

The syllabus should be accepted by different sections of society, with different cultural and religious background. Culture, tradition, custom, languages should be included in the syllabus.

Value education helps in the development of moral, social, aesthetic and spiritual sides of an individual. Proper attitude can be developed with the help of it.

Need and importance of value education can be highlighted as follows-

- It can develop a healthy and balanced personality
- It develops vocational efficiency
- It helps in the development of character and morality of children.

- Enables the child to adjust to his environment.
- It promotes social efficiency
- Inculcate ideas about national integration
- Develops cultural values
- Helps the child in passing his leisure time properly

Do you know?

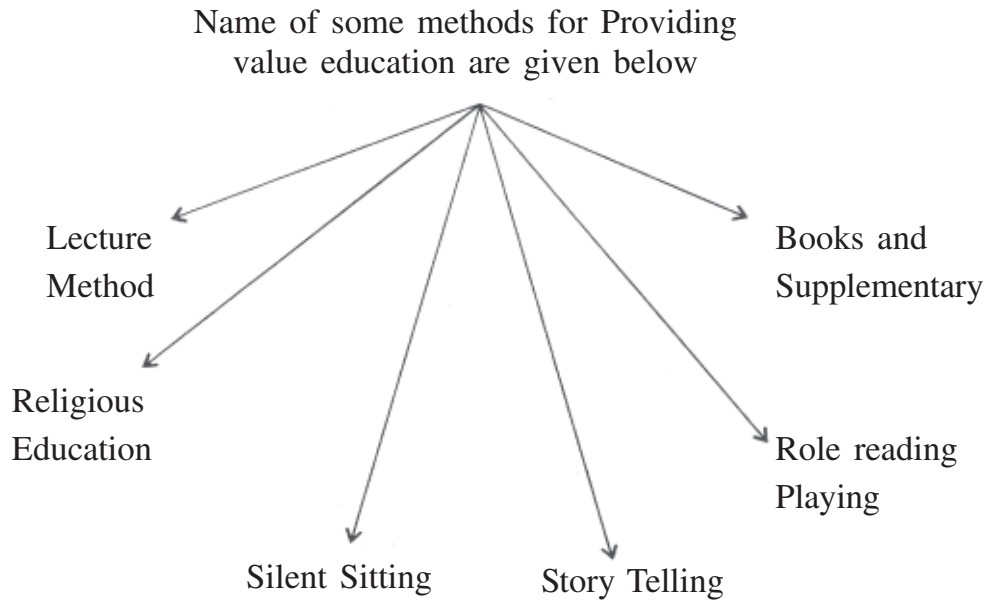
What the Kothari Commission said on the need and importance of value education? It said “The expanding knowledge and the growing power (science) which it places at the disposal of modern society, must, therefore, be combined with the strengthening and deepening of the sense of social responsibility and a keener appreciation of moral and spiritual values.”

Value Education in school

There are two distinct ways of importing value education, such as

1. Direct
2. Indirect

The systematic and deliberate instruction on values provided in school time table is known as direct way of important values. In some states moral education is imported in this manner. Here, values to be inculcated are explained, discussed and illustrated through stories, moral dilemmas and real life events. Indirectly value education can be imported through the regular co-curricular activities.



Activity

What method would you follow for imparting value education to your juniors.

E. WOMEN EMPOWERMENT

Concept of women empowerment:

After having passed High School leaving Certificate Examination, You got yourself admitted into the “Arts” Stream. Was it your decision or your decision was partially influenced by your Parents choices or preferences? Did you discuss with both of your parents or you went by the decision of your father alone?

In order to attain something in life, everyone has to put in some extra effort. To succeed in any effort, certain abilities or efficiencies are required. Empowerment is a Process which helps in recognising abilities, capabilities

and strength that are already these within an individual. It goes to mean the courage and the sense of independentness a person acquires over a period of time by making himself exposed to education and training. It makes an individual efficient for taking a good decision at the right time and in the right place.

Women contribute a lot in the socio-economic and cultural development of a society. Even though, in our society. Women constitutes half of the total population and at the some time the India Constitution has also given equal status to them as of their male counterparts, for some reasons or the other they lag behind man. Empowerment here means, not only in challenging but in eliminating all the obstacles that come in the way of progressive development of women folk.

Since women is responsible for enriching the living, to make it more meaningful and enjoyable, empowerment of them in resumes great significance.

Do you know?

National Policy for the empowerment of women was adopted in the year 2001.

Definition of woman empowerment

Some definitions of “Women Empowerment” are given below-

The International Women’s Conferance held in Nairobi in the year 1985 said that

“Women empowerment is the redistribution of social power and control of resources in favour of women”

According to UNSECO Gender Empowerment Index

“A person becomes empowered when she is able to make decision for herself and for others, socially and politically”.

“Empowerment in the Indian Context means the development of women capacity to make informed choice’s and expansion of their capacity to manage their domestic and economic environment efficiency”.

(C.Nongbri)

Activity

What other objective can be included for women empowerment
Discuss.

Status of women in Indian Education System

Thinkers say that status of a society is determined by the status of women living in that society. A society, where no, discrimination is made among the inhabitants, is regarded as a good society.

There is a saying in the Manusmriti which says

“During childhood, a girl is under the influence of her father, after marriage, she is under the influence of her husband and at old age, she is under the influence of her son.

Education is regarded as extremely essential for consolidating one’s status and position in a society which is largely driven by customs or traditions prevailing in a male dominated society.

In Vedic age, both men and women attained education which in the Muslim era women education had deteriorated significantly. The deterioration continued even during the arrival of East India Company in India. With the help of emerging educational reformers and Christian Missionaries women education was enhanced. After independence, Indian constitution gave special emphasis on women education. In 1958-59 National Women Education Committee and in 1974, Commission on the status of women in India, was formed. Central Government prepared National Perspective Plan for Women (NPPW) in 1988 where special emphasis was given on the status and education of women. National Policy of Education (1986) and The programme of Action (POA) of 1992 said that women empowerment is nothing but tool or programme for national development.

According to 2001 census report, the literacy rate of India Women is 54.16% against the literacy rate of men (75.85%). Government of India has adopted following steps for the education of women in India -

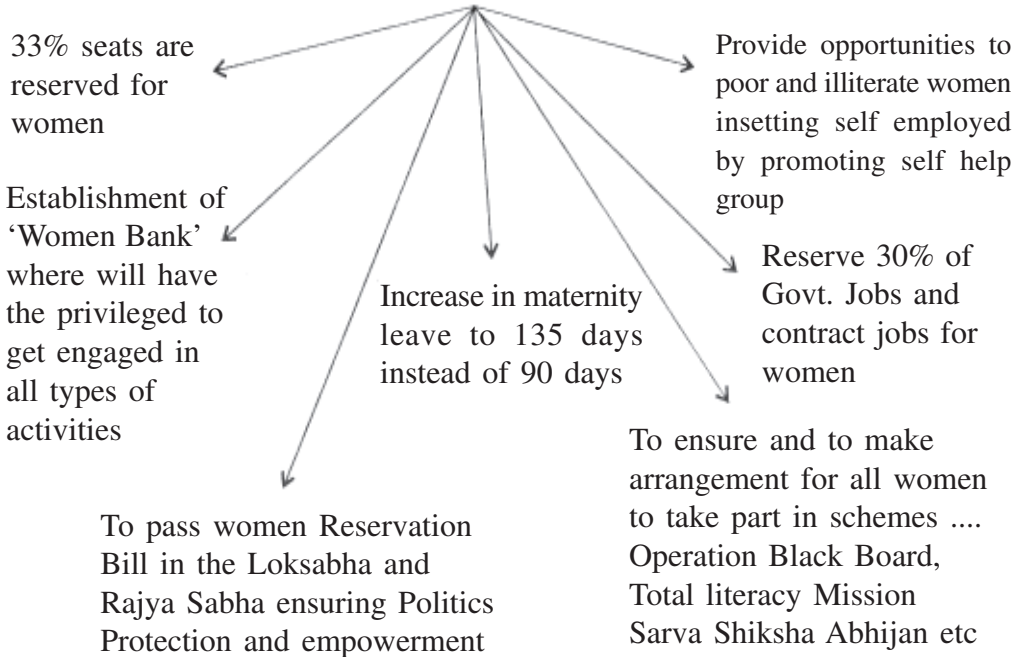
- To make women literate through the programme of National Literacy Mission
- To make primary education universalised
- Women should be engaged in different educational activities through non-formal education

Do you know?

The Government of India adopted a national Policy for the Empowerment of women in 2001.

Points to recertain

National Education Policy has adopted certain steps for women empowerment. They are



Do you know?

To protect from the harassment of men, on 23rd june 2005 "Protection of women from Domestic Violence Bill 2005" was passed.

- Every girl should get free and compulsory primary education
- Removal of illiteracy among women folk
- Encouraging girls for all kinds of vocational, technical and professional education as per their needs, interest and attitudes.

- Inoculating the values of gender equality and gender justice through education should get priority in the educational system.
- To use education as an agent of basic change in the status of women
- Women should be made aware of their constitutional and legal rights both in the work and social life.
- Value based education for women should be emphasised to bring self confidence among them.

Activity

What steps can taken in educational institutions for the enhancement of women empowerment.

Do you know?

UOC said that following measures should be taken for women empowerment -

- To provide scholarships to the girl students, studying in universities,
- To provide assistance in imparting women specific technical education
- To facilitate part-time research associateship
- To make special plan for providing women hostel
- To facilitate science education for women
- To establish a cell for curbing sexual harassment in any form in universities

SUMMARY

- Environment is the sum of all external conditions and influences affecting the life and development of organisms
- Environmental education is education through the environment, about the environment and for the environment
- Different educationists have defined “Environmental Education” in a different way
- Objectives of environmental education are - awareness, knowledge, attitudes, skills and participation
- Environmental education helps in going from simple to complex, indefinite to definite, concrete to abstract, ordering the learning experiences from empirical to rational etc.
- The scope of environmental education is so wide that it covers various aspects of nature-ecological, cultural, technologies, economical, legal, educational and communal.
- Population education is a programme through which the rate of increasing population, problems arising out of them, solution of the problems and the ways of controlling them can be known
- Different thinkers have defined population education in a different way
- Population education is a part of both Human Resource Development and Environmental education. It is wider than sex education.
- Population education is essential for the maintenance of quality life.
- In all the stages of education, population education should be introduced

- Physical education gives us knowledge on health (both physical and mental), its hazards and diseases. It increases the scope of human abilities, enriches the life of the individual and that of the society as a whole.
- The aim of physical education is to make all round development of an individual including physical, mental, moral, social, emotional etc.
- Physical education should be introduced at the upper primary stage and continued till the end of high school, i.e., class X.
- Value expresses significance which a man ascribes to matters rated to a particular activity or experience or to his life
- Value education is nothing but inculcation of proper habitus, development of proper attitudes, sensibilities and characters of the learner. It is related to the 'good' of every individual. It helps in the realisation of the vision of society.
- Different educationists have defined value education in different ways
- Value education helps in the development of moral, social, aesthetic and spiritual sides of an individual. It promotes social efficiency.
- In school, this education can be given in both direct and indirect ways.
- Empowerment is a process which helps in recognising abilities, capabilities and strength that are already there within an individual.
- Women empowerment helps women in acquiring their rightful status and become equal to their male counterparts
- In educational institutions, special measures should be taken for women empowerment. Both in the work and social life, women should be made aware of their constitutional and legal rights.

QUESTIONS

1. What is environment? What are its components?
2. What is environmental education?
3. What are the objectives of ~environmental education?
4. What principles should an educational institution follow providing environmental education?
5. What areas are covered within the scope of environmental education?
6. Who developed the concept of 'Population education'?
7. Define Population education. What are its objectives?
8. Why population education is need?
9. How population education can be imported at different stages of education?
10. What is Physical education?
11. Does the concept of modern Physical education differ from the ancient period?
12. Mention few objections of Physical education?
13. Why physical education is needed?
14. At what age physical education can be started?
15. What are values? Define.
16. What is value education? What are its characteristics?
17. Highlight the need and importance of value' education.

18. How value education can imported in school?
19. What is empowerment?
20. Define women empowerment. Why empowerment of women is considered very essential.
21. Mention the objectives of women empowerment.
22. Outline the status of women in Indian education system.
23. Give some measures for education for women empowerment.



UNIT - 4

MEMORY AND FORGETTING

CONTENT :

- Introduction
- What is learning?
- Characteristics of learning
- Learning and Maturation
- Factors affecting Learning
- Methods of learning
- a. Trail and Error method of learning**
 - ◆ Experiment on trial and error learning
 - ◆ Characteristic of trial and error learning
 - ◆ Educative value of trial and error method of learning
- b. Insightful method of learning :**
 - ◆ Experiment on insight
 - ◆ Characteristics of insightful learning
 - ◆ Educational significance of learning by insight
- c. Method of learning by conditioning :**
 - ◆ Experiment of Pavolv on learning by conditioning
 - ◆ Characteristics of conditioned learning (Pavolv)

- ◆ Educational implication of learning by conditioning
- ◆ Major laws of learning
- a. **Law of readiness**
 - ◆ Application of this law in the class room situation
- b. **Law of effect**
 - n Application of this law in the class room situation
- c. **Law of exercise**
 - ◆ Application of this law in the class room situation
 - ◆ Summary
 - ◆ Exercise

OBJECTIVES OF THIS UNIT :

After reading this unit students will be able to –

- ◆ Explain learning and its characteristic.
- ◆ Distinguish between learning and maturation.
- ◆ Explain the factors of learning.
- ◆ Describe different methods of learning.
- ◆ Describe major laws of learning.
- ◆ To discuss about educational significance of laws of learning.

INTRODUCTION :

Learning is a process by the help of which we acquire skill or dexterity in some work. It begins in the human life from infancy. A new born baby has to adjust with the external environment after birth. At the first stage of human life the baby is helpless. The baby can not eat, bathe, and dress without the help of parents or others. Mainly the baby depends upon mother for his/her essential needs. After certain period the baby can eat, bath, dress, walk and can do various activities gradually with increasing age. In this way learning process takes place consciously or unconsciously in the human life from infancy and it continues till death. So learning is a life long process. We can adjust with the changing society through learning. Learning is very necessary for uprising every aspect of human life. So we should know about learning and its related matters. It is to be mentioned that psychologists have studied about learning and its related matters. They have made various experiments also on learning. You will be able to know about learning and its related matters through this unit.

WHAT IS LEARNING :

All living being have some innate instincts. Man and other being react to the environment. Instincts of human being are very powerful. On the other hand, inherent instincts are crude form of behaviour. Man has intelligence and reasoning power. So we have to learn some skill or capacity for modification and improvement of our crude reactions or behaviours. When we have to made adjustment with different circumstances, then we

gain lot of knowledge and experiences which modify our nature and refine our crude instinctive reactions or behaviours. So we can say that modification of reactions or behaviour through experience is learning.

Psychologists have given us various definitions of learning. Given below are some of definitions of learning.

1. According to Gates, "Learning is the modification of behaviour through experience and training."
2. According to Colvin, "learning is the modification of the reactions of an organism through experience."
3. According to Ryburn, "In its simplest stage learning is a matter of making a response to a situation, or modifying a previous response in order to bring about an improvement."
4. I. P. Gilford defines, "learning is any change in behaviours resulting from behaviour."
5. According Crow and Crow, "Learning is acquisition of habits, knowledge and attitudes, it involves new ways of doing things and it operates in an individual's attempt to overcome obstacles or to adjust to new situations."
6. According to Skinner, "learning is both acquisition and retention of habit, knowledge and attitude."
7. According Smith, "learning is the acquisition of new behaviour or the strengthening and weakening of old behaviour as the result of experience."

CHARACTERISTICS OF LEARNING :

The main characteristics of learning are given below.

1. Learning takes place due to new experience and training.

2. Learning is the establishment of bond between stimulus and response.
3. Learning is an act of adjustment of individual with his environment.
4. Learning is goal oriented. Without goal learning can not be fruitful. To fulfill our desire or need we have to learn.
5. Learning is nothing but problem solving when we have to learn any work, then some problems arise before us. After learning the work, problem is solved.
6. Learning is universal process.
7. Maturation plays an important role in learning. More maturity may result in make capability to learn.
8. Habits makes learning permanent. Learning can not be permanent without repetition.
9. Higher in the level of animality may bear more capability and lower in its level may indicate lesser capability of learning.
10. Interest and learning are interrelated. Without interest anything can not be learnt
11. Learning depends on motivation. Motivation gives mental readiness or incentive in the learner to learn for better achievement.
12. Learning is an individual activity. All people do not have equal ability to learn owing to the fact of individual difference.

LEARNING AND MATURATION

Learning and maturation are intimately connected. Both results in change of behaviour. Sometimes it becomes difficult to say, definitely as to which of the behavioural changes are the results of learning and which are

the consequences of maturation. But the two process can be differentiated.

Maturation is a natural process. It is the growth which takes place within the individual. Maturation changes are relatively independent of activity, practice or experiences. Maturation may be considered as the development brought about by growth of the neural and muscular system. Thus maturation is regarded as the process of growth and development which take place within the individual without any special training, practice or any other type of stimulation. At a particular age, all the children normally start sitting, crawling, standing, walking, speaking etc. Such behaviour is the result of maturation.

On the other hand learning is an outcome of stimulating situation.

Learning is modification of behaviour which is a result of some experience, training or practice. The term 'practice' refers to formal training and the term 'experience' includes all types of happenings in life. Thus, singing, swimming in the river, playing football, driving a motor cycle etc. are result of learning. But it most of the activities of human beings it is difficult to decide which activities result from maturation or which one is form learning. The simplest example is the language development of the child. The child does not learn to talk until he reaches a certain stage or maturation. But he does not learn the language just because he attains that stage, because it is taught to him.

Learning very much depends upon maturation. For example a two years' old child cannot be taught reading or a two month's old child cannot be given toilet training. So to learn something we have to wait for a certain level of maturation essential to facilitate that learning. So maturation of the child is an important conditions in learning a new task.

These two processes are closely related to each other. They are interconnected and interdependent. In most cases it is difficult to differential

between learning and maturation. Certain activities are more due to maturation and less due to learning while some other activities are more due to learning and less due to maturation.

Point to remember :

- Learning is a result of environmental stimulus, where as maturation is biological in nature.
- Maturation provides readiness to learn.
- Maturation occurs due to neural and muscular development, while learning take place through practice and experiences.
- Learning and maturation both result in modification of behaviour.

Activity :

Prepare two list of behaviours. One which are results of maturation and another which are results of maturation.

FACTORS AFFECTING LEARNING :

There are certain factors that effect learning process. These factors bring improved performance and thus contribute to efficient learning. These factors are related to the stimulus, the task or the learner. Thus, we may group the factors or variables affecting learning as follows .

1. Subjective factors or factors within the learner ——such as his capacities motivation, age, sex, previous experiences etc.
2. Factors related to subject matter —— such as length, difficulty, meaningfulness of the learning materials.

3. Factors related to Method — such as review or recall, over learning, practice, recitation, sensory}' modality etc.

Same of the important factors are discussed below :

1. Age as a factor in learning : There is a popular belief that, children learn better than adult or old people. It is believe that, more people grow in age, the more their ability to learn new material decrease.

2. Sex difference as a factor in learning : It is generally observed that there are sex differences in learning of various subjects, skills, attitude etc. Different studies attempt to answer whether these differences are innately derived for the difference in sex. Or they are the product of culture and social roles assigned to male and female in our society.

3. Interest and attitude : Interest and attitude are important factor for successful learning. We will learn faster if we are interested in the material or skill to be learnt. Active intent to learn on the part of the learner has always better learning than passive attention given by them.

4. Motivation : Motivation refers to the internal state that drives the learner towards some goal. The learner with high motivation, tend to make more responses than a learner with a weak motivation. An individual's motivation or the urge to learn brings about better learning.

5. Feedback or knowledge of result : Knowledge or feedback is an important factor of learning. It acts as a strong incentive to learnt helps to eliminate error and increase precision in performance. Knowledge of result, especially, when favourable, reinforces learning and maintains interest and motivation.

6. Reward and punishment : Reward and punishment is also important of learning. Modem psychologist, however, use a more general term to

cover both cases 'reinforcement'. Reinforcement is one that strengthens a response - any thing that promotes learning. A reward is a positive reinforcement; a punishment is a negative reinforcement. These are key to learning. But if these are not applied in the right way at the right time, there is no learning.

7. Effective of previous learning : New learning depends on old learning. Thus learning is always influence by previous experiences.

8. Meaningfulness of material : The meaningfulness of the material to be learnt contributes to learning efficiency: If the learning materials are meaningful, than it is easier to learn.

9. Difficulty of material : Difficulty is a very important fact in learning. It is experimentally proved that learning curve for easy material showed rapid early gains which gradually slowed down and that for difficult material showed slow initial gains which gradually increased.

10. Whole and part learning : This factor is related with the method of learning the content. Generally, it is easier to learn in part than as a whole. But whole learning is often considered as effective method to learn the learning materials, particularly for fact learners and for short or meaningful materials which is easily memorized as a whole. In part learning continuity and meaning of the materials often get lost, but if the content is very long it may first be learnt in parts and then as a whole.

11. Distribution of practice : The length of the practice session and distribution of the rest period affect the learning process to a great extend. It has been found for a wide variety of motor skill, that practice is more effective, when it includes brief and judiciously distributed rest periods. This leads to rapid learning as compared to continuous practice. However, practice period should not be too long. Similarly it should not short or

frequent either. This would tend to break the task into small parts. Actually, the practice period will depend upon the learning task and the age of the learner. No extreme of spacing and massing is desirable.

12. Value of review or recall : Effortful recall has powerful influence on learning. Recall may also be termed ,as mental review.

13. Over learning : Over learning beyond the point of the first errorless reproduction. It help in retention. However, there may be diminishing advantages as the degree or learning increased.

In short we can conclude that there are different factors which affect learning and bring about improve performance. These factors are related to learner, subject-matter and methods of learning.

METHODS OF LEARNING :

On the basis of extensive research and study, the psychologists have given us various methods of learning. Among them the three major methods are:-

1. Trial and error Method of Learning.
2. Method of Insightful Learning.
3. Method of Learning by conditioning.

a. TRIAL AND ERROR METHOD OF LEARNING :

This method is based on the theory of connectionism propounded by Edward Lee Thorndike. According to him learning is the result of connection or bond established between Stimulus (S)and response or reaction (R). In short, it is called 'S-R' Bond theory. The environment provides the stimulus to which the individual makes his/her response through the senses. This bond or connection between Sand R can be strengthen through repetition.

When we try to learn something new, it is not possible for us to grasp it all at once. We have to ~wake attempts again and again until we succeed. Repetition helps to eliminate the wrong and adopt the right attempt. By dint of practice we can grasp the new thing easily. Repetition makes it easy. At the initial trials, there are large number of errors, but as trials are repeated, the number of errors is gradually reduced. In the same way, the amount of time taken in this regard is also gradually reduced. Finally there is no error and as a result learning takes place.

EXPERIMENT ON TRIAL AND ERROR LEARNING :

Thorndike carried out an experiment on trial and error learning with a cat. He puts a hungry cat in a puzzle-box. A plate of fried fish was kept out side at a little distance in front of the puzzle-box. The door of the puzzle-box could be opened only by pulling a string from inside. In order to achieve the food, the hungry cat adopted the blind attempts of pushing the head between the bars, thrusting the paw and some other types of random movements. In course of the attempts, the string was pulled accidentally and the door was open. The cat came out and got the food (fried fish). Again the cat was placed in the same situation and after some random attempt managed to come out and got the food. This time the attempts of the cat was lesser in number and the cat had to face lesser failures in getting food. In the successive trials the cat was placed in the same situation and after some random attempt manage to come out. At last, it was found that the cat able to come out of the puzzle-box without losing time and making any mistake. This is described as learning by trial and error.

Activity-I

Tell a six years old child to write some letters. If he/she has committed any mistake or error in this regard, tell him/her to write the same letters again and again until correct. Count trials and errors which are committed by his/her in every step. Write the number of trial and error along with time accordingly. Is the ultimate result of your experiment the same with the experiment of Thorndike on cat?

CHARACTERISTICS OF TRIAL AND ERROR LEARNING :

Some characteristics of trial and error learning are given below.

1. Trial and error learning is a gradual process.
2. The soul of this method is repetition.
3. At the initial stage the number of errors and time taken appear to be high. In the subsequent attempt they are in the downward trend.
4. In this method, wrong attempt given away to the right attempt.
5. It is described as blind mechanical method of learning.
6. Human and animal both learn through this method.
7. There is no need of high intellectual or mental ability in the trial and error method of learning. It is a common and simple method of learning.

EDUCATIVE VALUE OF TRIAL AND ERROR METHOD OF LEARNING:

Trial and error method of learning enables the pupil to gain efficiently in different subjects by making repeated attempt in his/her own ways. The pupil has to make a number of unsuccessful attempts before he/she arrives

at a desired result. So pupil should not be demoralized in aspect of learning. Student's motto should be 'try try again'. After a long time repetition it is possible for a student (or an individual) to achieve success in any job or matter.

This method lays more stress on 'learning by doing'. Such type of learning is practical learning. Both teacher and student may be gained more experience through practical knowledge. Through this method various educational problems can be solved. Moreover the common people in their day to day problems of life can also be .solved through this method. Bad habit can be given up and good habit can be formed through this method of learning. This method is more useful for the children of low intelligence than bright. On the other hand, generally this method is better for the children of tender age than adult. Because there is no need of more intellectual ability in trial and error learning.

Points to remember :

- Learning is a process with the help of which we acquire skill or dexterity in some works.
- Learning is a life long process.
- Modification of reactions or behaviour through experience is learning.
- Three major methods of learning are Trial and error learning, insightful learning, learning by conditioning.
- Trial and error method of learning is based on the theory of connectionism propounded by Thorndike.
- According to Thorndike learning is the result of bond established between stimulus and response.
- The soul of the trial and error method of learning is repetition.

b. INSIGHTFUL METHOD OF LEARNING :

Insightful method of learning is based on Gestalt theory. The three German psychologists Wertheimer, Kohler and Koffka were the propounder of this theory. Gestalt is a German word which means 'whole' or 'total pattern'. According to Gestalt psychologists, learning is an intellectual activity that involves the power of observation, perception and insight of the learner. They opposed the trial and error method of learning. Because in this method more stress was given upon physical activities. It is a blind mechanical process.' According to Gestalt psychologists, learning takes place as a whole. In the act of learning the learner tries to grasp the whole situation, but not as a parts. When the interrelationship of the parts came to be known, the idea of the whole emerges in the mind of the learner suddenly just like a flash of light. As a result the learner may solves any problem through it. So according to gestalt psychologist, learning is possible by insightful method, not by the method of trial and error.

Experiment on Insight: Kohler had conducted several experiments to prove insightful learning. In an experiment he kept the most intelligent chimpanzee named 'Sultan' confined to a cage. Some bananas were placed out side the cage. Two small sticks were kept in the cage. When the chimpanzee saw the bananas then he wanted to eat bananas. At the first stage, he had tried to get the bananas by extending his bare hands out side. He had followed the method of trial and error in this regard. But he was not succeeded at this method. After some time he looked around and saw two small sticks inside the cage. With the help of two sticks in two hands, he tried to get the bananas. But he found that the bananas were inaccessible

with the single stick in hand. He had spent some time without any attempt. After sometime suddenly an idea came to his mind that the two sticks could be fitted by joining one end with other. He did it and the combined stick in hand was extended outside. Then the bananas were reached. Thus Sultan was able to solve the problem by insightful learning. Sultan was kept in the same condition for the next day. This time also he able to solve the same problem easily.

Activity-2

Ask your companions whether they observe a man's eye, ear, nose, leap, check etc. separately or as a whole, when they see the face of a man. Is the same opinion of your companions with Gestalt psychologists in this regard?

CHARACTERISTICS OF INSIGHTFUL LEARNING :

Major characteristics of insightful learning are given below-

1. Learning occurs sudden.
2. It emphasizes more on the whole then parts.
3. When the interrelationship of the parts is known, the idea of the whole emerge in mind.
4. It avoids blind mechanical process of trial and error learning.
5. It emphasizes on power of observation and perception.
6. Insight is related to the intellectual level. Generally human beings have more insight then the lower species of animal.
7. This method is not helpful for common people.

EDUCATIONAL SIGNIFICANCE OF LEARNING BY INSIGHT:

Following are the special significance of this method of learning.

1. The learner should grasp the whole or complete object first before comprehending its parts. On the other hand, the teacher should present the whole or complete object first to the students and then proceed to explain its parts. It is based on a maxim of teaching i.e. “proceed from whole to the parts”.
2. It is very helpful for creative and constructive activities. In the higher stage of learning it encourages one to undertake research and experimentation independently.
3. It makes man self-dependent and become guide to his own action.
4. The dormant qualities of the student may be developed through his method.
5. It is very helpful for gifted children. Because there is need of higher intelligence in insightful learning.
6. In order to understand a difficult subjects this method has proved to be vary useful.

Points to remember:

- Insightful learning is based on Gestalt theory.
- Wertheimer, Kohler and Koffka were the propounder of insightful learning.
- Gestalt is a German word which means ‘whole’ or ‘total pattern’.
- In the act of learning the leaner tries to grasp the whole situation, but not as a part.
- Learning occurs sudden.
- Insightful learning has some educational significance.

C. METHOD OF LEARNING BY CONDITIONING :

Ivan Pavlov was a propounder of conditioning (classical) theory of learning. He was a Russian physiologist and psychologist. Generally natural stimulus results in natural response. For instance Saliva begins to flow from the mouth of the dog when it sees food. It is innate as well as natural. There is nothing to learn. But according to Pavlov natural stimulus may sometime be substituted by an artificial stimulus (or conditioned stimulus as it is called) and a new connection of artificial stimulus and natural response 'may be created. In simple words, learning occurs when a natural response is associated with other artificial stimulus instead of a natural stimulus.

EXPERIMENT OF PAVLOV ON LEARNING BY CONDITIONING:

Pavlov carried out an experiment on a hungry dog. In the first step he presented meat (food) to the dog. When the meat was presented before the dog, then Saliva began to flow from the' mouth of the dog. In the second step a bell was rung. To this the dog had reacted with the natural response of hearing the sound by raising the ears. In the third step he presented the meat and at the same time rang the bell. At this the response was found to be Salivation. He repeated this act for a few days under similar condition and the result was the same. In the last step, only the bell was rung but no meat was presented. Although the meat was not presented before the dog, yet Saliva began to flow from the mouth of the dog. In this way Pavlov discovered that the dog Salivated in response to the bell (Artificial stimulus).

In other words, the dog had learnt to Salivate at the sound of the bell. This Salivation to the sound of the bell is that of conditioning. This learning is the result of conditioned reflex. The experimental proceeding that led to conditioning in learning may be symbolically presented as below.

S_1 (Meat) – R_1 (Salivation)

S_2 (Sound of bell) – R_2 (Response to sound)

S_2+S_1 (Bell + food) – R_1 (Salivation)

Several trials continued

S_2 (bell) – R_1 (Salivation)

Activity - 3

If there is a dog in your house, make an experiment with a dog like Pavlov's experiment on learning by conditioning. Tell your teacher, what you have found in your experiment.

CHARACTERISTIC OF CONDITIONED LEARNING:

Major characteristics of conditioned learning are-

1. Learning is the result ,of condition or bond between natural response and an artificial stimulus.
2. It is a mechanical process.
3. Repetition is necessary for this learning.
4. There is no need of higher intelligence in conditioned learning. It is organic.

EDUCATIONAL IMPLICATION OF LEARNING BY CONDITIONING :

With regard to the educational implication of this method of learning we may say the following.

1. Reward and punishment are closely associated with conditioning. Reward strengthen the bond and punishment weaken it. Reward encourages the student to do something better. On the contrary punishment discourages.
2. It stresses the importance of repetition In learning which IS very useful for reading, writing, spelling etc.
3. With this method it is possible for children to develop good habits like neatness, cleanliness, punctuality, regularity, discipline etc.
4. With the help of this method, bad habits may be broken.
5. It emphasizes the importance of the right type of training during the early period of life.
7. Language can be developed through the method of conditioning.
8. It stresses the importance of the idea of association of learning which is very much helpful in learning and memorization.

MAJOR LAWS OF LEARNING :

E. L. Thorndike carried out various experiments on learning. He observed certain common characteristics of learning which are applicable

for both men and animals. From his experiment he formulated three major laws of learning. They are -

- a. Law of Readiness.
- b. Law of Effect.
- c. Law of Exercise

a. LAW OF READINESS :

This law emphasizes the importance of readiness to learn. When a pupil feels ready to learn, he learns more quickly and effectively. He/ She also takes pleasure in learning. But when he/she also not ready to learn, he/she can not learn effectively. He/She takes more time in this regard. According to Thorndike physical readiness is necessary for learning. Though Thorndike did not mental readiness for learning, yet mental readiness is also necessary along with physical readiness.

**APPLICATION OF THIS LAW IN
THE CLASS ROOM SITUATION:**

The teacher should know the appropriate physical situation of the student before going to teach a lesson. If students are ready to learn then the teacher should start a lesson. On the contrary, the teacher should motivate them to be prepared to learn. For mental readiness of students the curriculum must be suitable for them. Because if the curriculum is not suitable for them, dissatisfaction may be arised among them. After all without readiness learning can not be fruitful. Both teacher and student must be prepared for learning physically and mentally.

b. LAW OF EFFECT :

By this law of learning we may know that learning depends upon the result or effect. If the result of any activity is satisfactory, the learner is more inspired to repeat it. But if the result is dissatisfactory, the learner is not inspired to repeat it. In other words, the dissatisfactory result discourages such repetition. For example, when the child solves questions correctly he will be encouraged to do more. But if he fails repeatedly, he will be discouraged to do more. So this, law is known as law of satisfaction and dissatisfaction. It may also be called the law of pleasure and pain. This law indicates that a thing which gives pleasure is easily learn and a thing which gives some trouble is not learned.

Thorndike defines this law as follows

“When a modifiable connection between a situation and a response is made and is accompanied or followed by a satisfying state of affairs that connection’s strength is increased, when made and accompanied or followed by an annoying state of affairs, its strength is decreased”. Its simplified idea is that satisfying state of the result increase strength of connection between situation and response and dissatisfying state decreases the strength of connection.

Application of this law in the class room situation : This law has a special role in the result of learning. Reward and recognition or praise has encouraged the pupil for learning. So due reward or recognition should be given to good achievement so that the pupil is cheered up to march forward. Punishment should be avoided as far as possible. Because punishment produces a negative affect and it causes discouragement. However, sometimes punishment may be applicable for undesirable behaviour and activity of the

student. So the teacher makes use of the technique of reward and punishment in attempt of learning. Pupil prefer those subjects or topics which are pleasant and interesting to them. So the teacher should pay attention to those things which give pleasure and create interest to pupils. Memory is also directly related to this law. Generally pleasant things are remembered better than unpleasant things.

c. LAW OF EXERCISE :

This law indicates that exercise or practice is necessary for learning. Repetition makes vary strong the connection between stimulus and response. Without repetition, the connection between stimulus and response becomes weak. When a activity is repeated frequently, it becomes easy and strong. Learning experience can be made durable by repetition or practice, otherwise it may die out due to absence of practice.

This law of learning has been divided into two parts, such as law of use and law of disuse. In relation to the law of use Thorndike says, “When a modifiable connection is made between a situation and a response, that connection’s strength is other things being equal increased”. On the otherhand, in relation to the law of disuse Thorndike says, “When modifiable connection is not make between a situation and a response over a length of time that connection’s strength is decreased”.

In simple language, we can say that strength of connection between stimulus and response increases due to exercise or practices and it decreases due to absence of practice for a long time. In other words, if practice is continued, the process of learning or learning experience becomes strong and lasting. On the otherhand, it may fadeout to absence of practice. The law of disuse proves that if something is left after learning, it is forgotten. But this can be remove by practice frequently.

Application of the law in the class room situation : A teacher can use this law of exercise in the classroom situation. A teacher should teach a lesson to the student again and again if necessary, so that the student may grasp it clearly. The teacher should give opportunity to the students to keep fresh the knowledge of various subjects they acquired. The teacher should emphasize the importance of repetition or practice for memorizing and mastering of any subject. Skill, efficiency and manual dexterity of the learner increases through repetition. Undesirable behaviour and activity of the student may be eliminated by putting a stop to their repetition. The teacher should always advise the student to form good habit by repetition. Because good habit forms good character and good character makes good man.

Points to remember :

- Ivan Pavlov was a propounder of conditioning learning.
- Learning occurs when a natural response is associated with other artificial stimulus instead of a natural stimulus.
- Learning by conditioning has some characteristics and educational significance.
- Thorndike formulated three major laws of learning. They are- law of readiness, law of effect and law of exercise.
- Through physical readiness is necessary for learning, yet mental readiness is also necessary for learning.
- Learning depends upon result or effect.
- Learning takes place by exercising. If practice is continued, the process of learning becomes strong.
- Law of learning can be applied in the classroom situation.

SUMMARY

Learning is the modification of the reactions or behaviour through experience. Psychologists have given various definitions of learning. Learning has some characteristics. Three major methods of learning are Trial and Error method of learning, Method of Insightful learning and method of Learning by conditioning. Trial and Error method of learning is based on the theory of connectionism propounded by E. L. Thorndike. According to him learning is the result of bond between stimulus and response. Thorndike carried out an experiment on trial and error learning with a cat. Trial and error learning has some characteristics. This method has some educative value. Insightful method of learning is based on Gestalt theory. Wertheimer, Kohler and Coftka were the propounders of this theory. Gestalt is a German word which means 'whole' or 'total pattern'. Kohler had conducted several experiments with chimpanzees to prove insightful learning. Insightful learning has some characteristics and educational significance. Ivan Pavlov was a propounder of conditioning theory of learning. He carried out an experiment on a hungry dog to prove learning by conditioning. It has some characteristics and educational significance also.

Thorndike formulated three major laws of learning, such as law of readiness, law of effect and law of exercise. Law of readiness emphasizes the importance of readiness to learn. This law of learning can be applied in classroom situation. By the law of effect we may know that learning depends upon result. This law can be used in classroom situation. Law of exercise implies that learning is possible by exercising. This law has two parts - law of use and law of disuse. This law has some educational significance. It can also be used in the classroom situation.

EXERCISE

1. What is learning?
2. Write the major characteristics of learning.
3. Discuss about different factors of learning.
4. Discuss about the relationship between learning and maturations.
5. 'Learning depends upon maturation' - explain.
6. How is learning possible through trial and error method? Explain with example.
7. What is learning by insight? Determine the educative value of this method of learning.
8. What is meant by learning by conditioning? Write briefly the educational implication of Pavlov's conditioning response theory.
9. What are the major laws of learning? Discuss how these laws can be applied in the classroom.
10. How learning becomes possible through insight? Explain with suitable example.
11. Explain Thorndike major laws of learning and show their educational implication.
12. Write the major characteristics of trial and error method of learning.
13. Write briefly the educational implication of trial and error method of learning.
14. "Learning is the modification of behaviour through experience and training" Amplify the statement.

15. Write short notes on :
- Learning by conditioning
 - Insightful learning
 - Learning by trial and error
 - Law of effect
 - Law of readiness
 - Law of exercise
16. Write whether the following statements are true or false.
- Learning is the act of problem solving.
 - Learning by insight is a mechanical process of learning.
 - Learning is not dependent on maturation.
 - Insight is higher method of learning.
 - Learning is a life long process.
 - Learning is the basis of behaviour.
17. Fill in the blank with the appropriate words.
- Trial and error method of learning was advocated by _____.
 - Gestalt is a _____ word.
 - Law of exercise was formulated by _____.
 - Learning is the modification of _____ through experience.
 - _____ was a propounder of conditioning (classical) theory of learning.

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8. **মুকুন্দ শৰ্মা, বীৰেন্দ্ৰ ডেকা**
আৰু কন্দৰ্প কুমাৰ ডেকা : উচ্চতৰ মাধ্যমিক প্ৰাৰম্ভিক শিক্ষা (২য় বৰ্ষ)

UNIT - 5 (A)

MEMORY AND FORGETTING

CONTENT :

- Meaning and Processes of Memory
- Characteristics of Memory
- Types of Memory
- Marks of Good Memory
- Improvement of Memory
- Meaning of Forgetting
- Characteristics of Forgetting
- Causes of Forgetting

OBJECTIVES OF THIS UNIT ARE

- ◆ To enable students to acquire and clear the meaning of memory.
- ◆ To provide knowledge on the process memory.
- ◆ To make students aware of different types memory.
- ◆ To develop understanding about improvement
- ◆ To provide information regarding marks of good memory
- ◆ To enable students to understand the concept of forgetting.
- ◆ To make students aware of the causes of forgetting,

INTRODUCTION :

We all know that memory and forgetting are two very essential mental functions for every individual. It is more so for students as academic achievements are always related to both memory and forgetting. Hence you should have some basic knowledge on these two mental functions. In the following chapter you will learn about what is memory and forgetting, processes involved in memory, types of memory, marks of good memory and the factors that causes forgetting.

MEANING AND PROCESSES OF MEMORY

We have a specific function of mind by which we acquire knowledge of the outer world and retain them in the conscious part of mind. This ability varies from individual to individual. Memory on the other hand is that function of mind which enables one to recollect and use those acquired knowledge and experiences whenever necessary. But defining or giving clear concept of memory is not very easy. Because it is a very complex process.

Decades ago there was a group of psychologists called faculty theorists or faculty psychologists. They believed that mind is composed of a few mental powers or faculties and memory is one of them. It is an inherited ability and varies from person to person. However, in the opinion of this group of psychologist, memory can be improved with the help of specific learning and training.

But modern psychologist do not believe that memory is a specific power of mind. To them it is a mental function or process. In this process the images of various experiences acquired through our sense organs are stored in mind and recollected as and when necessary. It is therefore clear that memory involves three kind of functions - acquiring experiences from

the environment, storing or preserving the images in mind, and bring them back to conscious mind or recollect whenever necessary. Memory therefore may be simply called a mental function of recollecting or remembering past experiences stored in mind.

Different psychologists have given different opinions regarding what is memory. A few definitions are mentioned below -

William Mc. Dougall the famous psychologist defined memory in the following words - "In the strictest or narrowest sense memory or remembering implies imagining of events as experienced in the past ("An outline of psychology" - Mc Dougall).

According to James S, Ross - "A memory is a new experience determined by dispositions laid down by a previous experience. The relation between the two being clearly apprehended ("Groundwork of educational psychologist" - Ross).

In the opinion of Stout - "Memory is the ideal revival, in which the object of past experiences are reinstated as far as possible in the order and manner of their original occurrence". ("A manual of psychology" - Stout)

W. M. Ryburn has given a simple definition by stating that, "The power that we have to store experiences and bring them into the field of consciousness something after the experience have occurred, is termed as memory."

("Introduction to Educational psychology" - Ryburn)

From the above definitions it is clear that memory IS revival of past experience and it involves certain processes.

Process of Memory :

Memory today is not regarded as a mental power of individuals inherited

by birth. It is believed to be a mental function or process containing several stages.

The stages involved in the process of memory are -

(I) Learning or acquisition of experience:

This is the first and most essential stage in the process of memory. Without learning or acquisition of knowledge the mind is like a white sheet of paper. One must have sensation and perception of objects, acquire knowledge and experience in order to recall them in future. Hence it is clear that memory cannot occur without prior learning or acquisition of knowledge.

(II) Retention or Retaining :

The second important stage in the process of remembering or memory is the effort to retain the images of acquired learning and experiences in mind. Whatever and one learnings, effort must be made to store their images in mind. Without this retaining function, nobody can have memory. The stored images of learning and experiences can be recalled whenever necessary. However it must be kept in mind that retentive capacity is an inborn one. As it is inherited, the power of retention is limited and cannot be changed. Researchers proved that in any individual. The power of retention develops more upto the age of fourteen or fifteen years. It reaches peak at the age of twenty five after which retention ability declines.

(III) Recall or Remembering:

The third factor present in the process of memory is recall or remembering. It is in this stage when images stored in mind are brought back to the conscious part of the mind. Efforts are made in this stage to

revive or reproduce past experience in the present context without making any change of the images. Hence recall or remembering can be called an unchanged reproduction of past experiences and learning that are kept stored in mind.

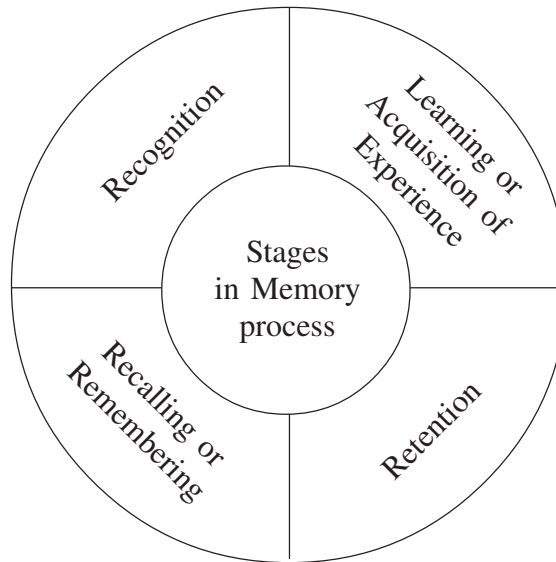
Regarding recalling it has to be remembered that inspite of our best effort we cannot retain everything that we learn. Some amount of our learning and experience are bound to be forgotten. Only those facts that are not tempered by forgetting can be rembered. Hence psychologist regard forgetting as a factor that functions in between retention and recall.

Activity - 1

- (a) In order to test recalling capacity, students may be encouraged to conduct a simple test on one another by using materials like words, numbers, pictures or other objects. Anyone of the material numbering about twenty should be presented before the subject for a very limited time (say 20 seconds). After some time interval the student should be asked to recall them. The teacher may determine whether recalling capacity of the student is better, good average or below average on the basis of the answer.
- (b) Student may be motivated to test conduct on recognition by using two sets of coloured pictures. The subject should be shown the first set of pictures for a very short time. Afterward the two sets should be mixed up and the presented after some times gap. The student should be asked to recognize those pictures that be has seen earlier.

(IV) Recognition :

Besides learning, retaining and remembering, there is another function known as recognition. Some psychologists regard it as the fourth stage in memory process. Recognition is the act of mentally verifying the correctness or otherwise of the remembered facts. Students generally has this mental function while answering objective type tests.



Four stages involved in Memory Process.

Point to remember :

1. Memory is a complex process.
2. Ancient faculty school of psychology considering memory as a mental power.
3. According to modern psychologists memory is a mental process.

4. The four stages involved in the process of memory are
5. (a) Learning
(b) Retention
(c) Recall
(d) Recognition
5. Memory is the revival of past experiences in its original form.

CHARACTERISTICS OF MEMORY :

In order to give a more clear idea regarding what is memory, it is necessary to point out some characteristics of memory. A few salient characteristics are mentioned below :-

- (i) Need of sensory experience : We have five senses in our body. In order to have memory acquiring experiences through these sense organs are very essential. Memory can not take place without the sensory experience.
- (ii) Retaining power : Retaining power, is necessary for memory. Every individual has retaining power of this mind. This helps him to store learning and experience. However retaining ability is an inherited one and hence limited.
- (iii) Revival or Reproduction : Memory requires exact reproduction or revival. It means that there should not be any change or distortion of retained facts while making reproduction of past learning and experience.
- (iv) Role of unconsciousness mind : We have both conscious and unconscious mind. In reproduction of past experience and learning

unconsciousness also play an important role. Generally it helps in retaining pleasant experiences and forgetting the unpleasant one.

- (v) **Need of Repetition** : Repetition is very essential for retaining whatever it learnt or acquired. It also help in recalling the stored images correctly and quickly. Lack of repetition induces forgetting.
- (vi) **Need of good mental health** : A disturbed and weak mental condition may make one confused and forgetful. Hence a good mental health is a prerequisite for good memory.
- (vii) **Memory a mechanical activity** : Some psychologist are of opinion that there is nothing new or creativity in the process of memory. It is almost a mechanical activity comprising three phase - learning or acquiring experience, retaining them and recalling or remembering them when necessary.

Point to remember :

1. Memory depends upon sensory (a) experience (b) retaining power and (c) reproduction of past experience.
2. Unconscious mind plays an important role on memory.
3. Repetition is very essential for memory.
4. A good mental health is a prerequisite for good memory.
5. Memory is a mechanical process.

TYPES OF MEMORY :

On the basis of it's nature, memory is divided into several types.

But Burgson, the famous psychologist divided memory broadly into two types. They are image memory and habit memory.

(a) Image Memory : As the name implies this type of memory depends purely on the image of past experience and learning retained in mind. In order to have this kind of memory one must have previous learning and experience. Their images have to be stored in mind and revived whenever necessary. This kind of memory therefore requires high intelligence, creativity, imaginative ability of an individual. Hence image memory is regarded as a pure type of memory and is used widely by all. Students use it while answering essay type questions.

(b) Habit Memory : this kind of memory is formed through physical repetition and hence called habit memory. When an activity is repeated again and again, a kind of memory is acquired and it is habit memory. This memory depends more on physical repetition than on images retained in mind. For example the memory one uses in playing an instrumental music is habit memory.

Besides image and habit memory there are other types of memory too, and a few of them are mentioned below -

(c) Long term or Prolonged memory : This types is named on the basis of time required between acquiring learning or experience and remembering or reproducing them. If the time gap is long, it is called long term memory. For example if an adult can recall some incidents happened in his early life, he has long term memory. This ability to remember things even after long time interval is rare and it always prove an individual strong retaining ability.

(d) Short term or immediate memory : When something is reproduced shortly after learning, it is known as short term memory. There is very little interval between learning and getting it's memory back.

For example when a press reporter notes down the proceedings of meeting he has to use short term memory. Some special qualities like mental alertness, concentration, sharp receptivity of the sense organs and the nervous system as a whole are required to successfully develop and apply short term memory.

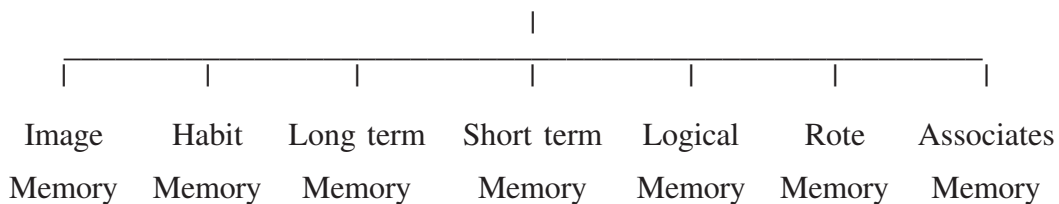
(e) Logical Memory : This memory does not depend upon mechanical repetition. Instead of blind rote learning, in order to have logical memory one has to learn and acquire experience using logical and analytical abilities. Besides, for logical reproduction intelligence, reasoning, the power of understanding etc. are also necessary. This is a better type of memory and can be compared to pure memory. Students generally use this memory while solving mathematical problems and doing laboratory experiments etc.

(f) Rote memory : Rote memory means a kind of verbal memory, where verbal repetition is used to retain images in mind and to reproduce them. It is thus quite different from logical memory. Instead of applying understanding, intelligence, logical ability, etc. verbal repetition is used mechanically in case of rote memory. Sometimes students use this memory during examination. But it is a very temporary type of memory and may fail one any moment.

(g) Sensory memory : Everyone of us is blessed with five sense' organs with their respective special functions. When some experience is acquired through our sense organs and it's memory is derived, it is called sensory memory. Thus by using eyes one may have visual memory, from ear auditory memory from skin tactual memory etc. Sensory memory is lower type of memory. Generally grown up people use this memory less, where as little children use it very frequently.

(h) Associative memory : It is a general tendency of mind to use association while remembering past experience and learning, Most of us try to remember something by associating the same with a similar experience. The memory that is derived out of associate is called associative memory. There are a few factors or principles of association which influence over associative memory. They are similarity, nearness and difference. These are also called law of similarity. As examples we may state that because of similarity the son's appearance reminds us his father, black colour reminds us of white because of opposite quality or contrast and satrya dance reminds us of Srimanta Sankardeva because of near relation.

Different types of memory



Activity - 3

Teachers may ask students to give some' example of their practical life in which they have to use different types of memory.

MARKS OF GOOD MEMORY :

Memory plays a very significant role in one's life. Hence everybody wants to have a good memory. But that does not happen. Power of remembering varies from person to person. Some have very good memory where some have weak memory. S. S. Chauhan in his book "Advanced Educational Psychology" mentioned about a twenty nine years old newspaper

agent with exceptional memory. He could learn and remember seventy words all at a time, where as normal people can recall only seven.

There are certain marks or characteristics of good memory. G. F.

Stout in his book “A Manual of Psychology” point out several marks of good memory. Below a few marks of good memory are mentioned :

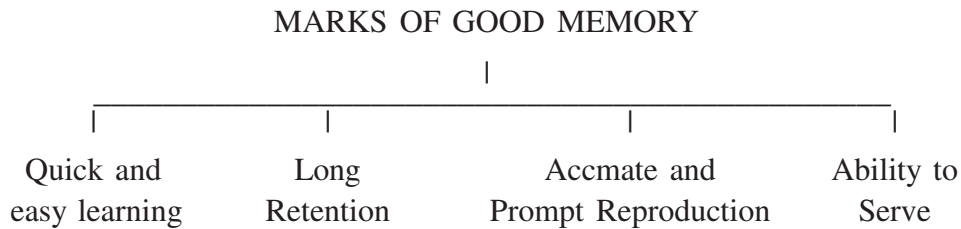
(a) Ability to learn quickly and easily : One of the important mark of good memory is the ability to learn quickly and easily. The person with good memory is always able to learn very quickly and without much effort. On the other hand a person with weak memory lacks these qualities. Thus ease and rapidity in learning and acquiring experiences is a remarkable mark of good memory.

(b) Long Retention : Retention is indispensable for memory. The images of what is learnt or acquired must be stored in mind for future recollection. A person with good memory not only learnt quickly and easily, but can also retain their images for long time.

(c) Accurate and Prompt and Reproduction : The process of memory also requires reproduction of images as and when necessary. A good memory depends largely on the ability to reproduce correctly. A person with good memory is blessed with this quality~ He can not only learn quickly and easily, can retain learning for a longer time and can also recollect or reproduce correctly and promptly whenever situation demands. Thus accurate and prompt reproduction is a major mark of good memory.

(d) Ability to Serve : A good memory must have ability to serve as and when necessary. A person with good memory can recall the right thing at the right moment. If our memory fails as at our need, it cannot be called a good memory. Whatever one learns or acquires experiences in life become

meaningful if memory remain serviceable. Thus service ability is also a mark of good memory.



IMPROVEMENT OF MEMORY :

Improvement of memory is a commonly expressed desire on the part of the every individual. But improvement of memory is a controversial issue. William Mc Dougall had maintained that memory can be improved by practice. On the other hand according to William James retentiveness is a physiological ability and hence unchangeable. It is innate and mostly depends upon heredity. It is the power of learning, not the power of retention that is improved by practice. So some improvement of memory is possible if one could improve the conditions and method of learning.

Thus stout contends that memory can be improved, but only in special directions. There is no improvement of general memory ability through practice. Although training given in a special area' may help to exercise improved memory on that area. By long practice the actors come to remember and recall their parts. But effects of practice are strictly confined to the special field and do not spread to other field of work.

From the above discussion it may be said that general improvement of memory is not possible, but certain favourable conditions may. help to make effective use of one's memory. In this regard we may approach the problem

from two channels-

- (a) Favourable conditions which improve remembering and
- (b) Improved methods which enhance memory.

(a) Favourable conditions which improve remembering :

- (i) Will to learn : Intention to learn and concentration gives longer retention and better recall. Materials learn without intention are difficult to be remembered at later times. So it is said that will to learn is winning half the battle.
- (ii) Interest : Interest is an essential condition for effective learning and memorizations. Therefore, every care should be taken to create the desired interest in learning materials.
- (iii) Motivation : Proper motivation should be provide for effective memorization. Motivation facilitates learning and enhances memory.
- (iv) Principle of association : The principle of association is very helpful in remembering and recall. Altems should be made to connect learning with previous learning on one hand and with so many related things on the other. Sometimes special techniques and devices are to be used that facilitate learning and recall. For example VIBGYOR has proved us an effective aid in remembering the colours of rainbow.
- (v) Rhythm : Rhythm is an aid to memory. Children easily remember songs and poems when they hear by rhythm than by more reading. Rhythmic materials can easily stimulate mind to keep its impression lively.

- (vi) Meaningfulness of material: Meaningfulness of materials is important in effective, learning and longer retention.
- (vii) Rest : Rest is essential psycho-physical condition of learning and remembering. Rest can remove fatigue and boredom.

(b) Improved Methods :

Memory can be improved having improved method in addition to the above noted favourable conditions. A few such methods are mentioned below

- (i) Recitation: Recitation is an important technique to affect economy in memory. It means speaking and reciting to oneself.
- (ii) Whole method : Whole rather than part method of learning is found to be more economical for memory. This method goes to mean acquiring the content as a whole without making gap or interval. Learning Part by part makes the impression fragmentary and short lived. But the use of whole or part method depends upon the nature of content and the nature of the learner.
- (iii) Spaced Learning : It is psychologically sound to reasonably spaces the learning time by giving some intervals.
- (iv) Learning by doing : Learning by doing or active learning is obviously superior to passive learning. Active learning makes learning impression alive and active in mind for long.
- (v) Repetition and practice : Repetition and continuous practice which adds to the effective memorization. Repetition or practice strengthens the bond in learning to keep its impression for long. It reutilises the image for which forgetting cannot have its impact on memory.

Thus, improvement of memory to a large extent rests upon the factors or methods mentioned above. We can come to the conclusion that improvement in memorizing demands the necessary improvement in the techniques and methods of learning, the learning situations and environment and learner's state of mind.

Point to remember :

- There is no general improvement of memory.
- But certain favourable condition and methods may improve memory in specific area.
- Favourable conditions are - Will to learn, interest, motivation, association, Rhythm, Meaningfulness of material, Rest etc.
- Improved methods are recitations, whole method, spaced method, learning by doing, repetition and practice etc.

Activity :

Try to memorize a poem of your choice using different measures mentioned above and discuss about the applicability of the measures with your friends.

FORGETTING AND ITS CAUSES :

(a) **What is Forgetting :** Forgetting is generally regarded as opposite to memory. Memory means reproducing past learning and experiences. Inability to do so is regarded as forgetting.

However the concept of forgetting is not so simple. In case of memory the first essential requirement is learning and acquiring experiences. The

image of whatever is acquired has to be retained in mind in order to recall in future. Forgetting according to many psychologists, may be regarded as a phase that occurs between retaining and remembering. It is a typical mental condition that is present in all kinds of learning. One cannot remember hundred percent of what one learns.

Freud the great Psychoanalyst regarded forgetting as a very necessary condition for good mental health. According to him it is a defence mechanism of human mind. Because it helps to forget the sorrows and painful experiences of life and to lead a normal life with normal mental condition.

Forgetting is also regarded as a condition of memory. Because retentive capacity, which is so essential for memory is an inherited ability and hence it is limited. Forgetting helps mind to push necessary and old ideas into unconsciousness and thus made space to learn and retain new experiences.

Forgetting is a mental phenomenon has certain characteristic of its own. In order to understand the concept of forgetting better it is necessary to know them. Below a few important characteristics of forgetting are mentioned :

CHARACTERISTICS OF FORGETTING :

- a. Forgetting is an unavoidable mental phenomenon. Inability to recall or remember what has been stored in mind is called forgetting.
- b. Forgetting though unwanted is essential. Because it indirectly helps in learning and acquiring experiences.
- c. It is a natural mental condition which acts as a defence mechanism for our mind.

- d. Learning is a very often called “judicious forgetting”. Because forgetting helps in removing unnecessary things from mind and make space to retain the essential one.
- e. One peculiar characteristics of forgetting is that it is maximum in individuals during the initial hours of learning and slows down as time passes.

Points to Remember

1. Forgetting is regarded as inability to recall past experiences
2. Forgetting is necessary for learning.
3. It is regarded as “defence mechanism” for mind.
4. Like memory forgetting has also it’s own characteristics.
5. Forgetting and memory through opposite is interdependent.

CAUSES OF FORGETTING :

S. P. Chaube in his book “Educational Psychology”, pointed out that there are many causes of forgetting. But one very important internal or subjective condition is lack of interest.

Psychologist have mentioned several causes of forgetting. These causes may be primarily divided into two groups - Physical and Mental causes. Forgetting due to physical causes is termed as “fading” in psychology. Where as forgetting due to mental causes is called “blocking”. A few of the important physical and mental causes are mentioned below :

Physical Causes of Forgetting :

(a) **Old age :** Forgetting is generally more in senior people. Aged persons are physically and mentally weak. Nervous systems of the body

along with the brain function generally decline due to age. Hence, old age is an important factor of forgetting.

(b) Brain Injury : Our brain has several regions like cerebrum, cerebellum, midbrain, thalamus, medulla oblongata etc. The cerebrum region is primarily responsible for memory work. If that part is injured due to some accident or severe ailment, forgetting may occur. This memory lost may be long lasting or temporary.

(c) Tiredness or Fatigue : Fatigue is another case of forgetfulness. Working very hard continuously for a long time makes physically exhausted. As a result the nervous system including the brain becomes tired and weak. Such a situation induces forgetting. Thus tiredness is a cause of forgetting.

(d) Intoxicant : There are some intoxicating drugs, use of which may cause forgetting. For example, if drugs like alcohol, tobacco, phensidyl, heroine etc. are used regularly, forgetting may take place in adults as well in young boys and girls. Thus taking harmful, drugs is another cause of forgetting.

(e) Lack of Repetition : To keep in mind the process of an activity learnt by us, its repetition is very essential. Otherwise forgetting may occur rapidly. Hence lack of repetition is a cause of forgetting.

Mental Causes of Forgetting: Of the various causes of forgetting the following are noteworthy :

(a) Learning without Interest : Lack of interest in learning and retaining images is a very important cause of forgetting. Because one easily forgets those in which he has no interest.

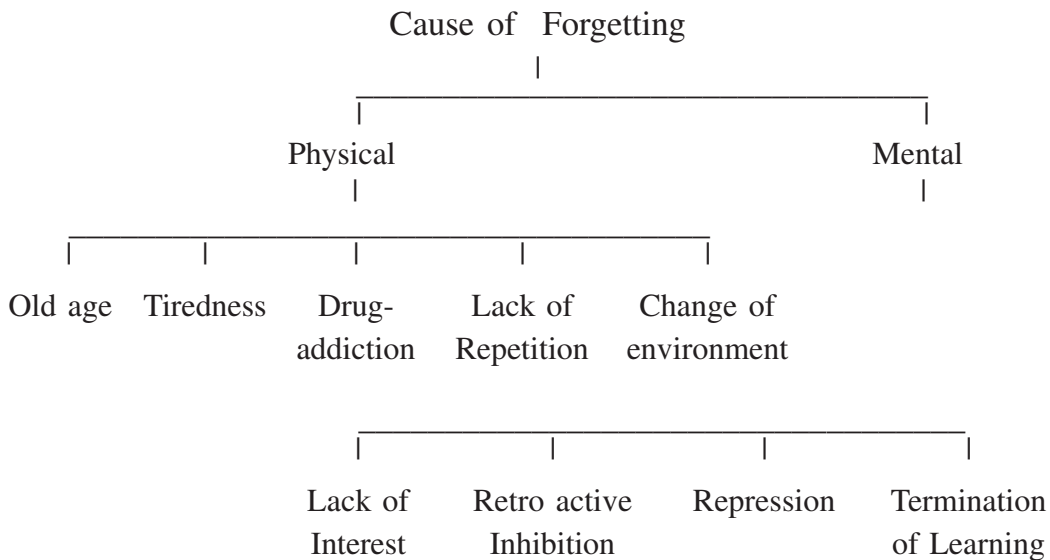
(b) Retro-active-inhibition : It is a psychological condition experienced by everybody. In the opinion of S. S. Chauhan, “Retroactive inhibition means that something works backward to block something else.” This kind of mental blocking happens when two different subjects are learnt without providing any time gap. Thus if one subject is learnt, immediately after learning another, a kind of mental blocking develops. When the person tries to remember the first experience, the second experience creates a shadow and become like an obstacle in recollection of the first. Thus retroactive inhibition is an important cause of forgetting.

(c) Repression : Repression means keeping down something by force.

It is a psychological phenomenon where by unfulfilled desires of mind, unpleasant experiences of life are forcefully or voluntarily pushed back into the unconscious level of mind. Hence repression a kind of voluntary forgetting.

(d) Emotional Turmoil : We have variety of emotions in us, like love, anger, jealous, hatred etc. Sometimes due to certain provocative situation a person may suffer from acute emotional disturbance or turmoil. This excessive and uncontrolled emotion may cause forgetting.

(e) Termination of Learning process : Learning is a very active process, where different mental activities including memory is actively associated. But if there is complete termination of learning process in some particulars field, forgetting starts and gradually becomes more active than memory. Hence termination in learning is a cause of forgetting.



Activity - 4

Students may be asked to observe the nature of forgetting of a particular elderly person for two-weeks and submit a report on it.

SUMMARY OF THE CHAPTER :

Ancient psychologist regard memory as a special mental power. But modern psychologists rejected this idea and asserted that memory is a mental function and it involves certain processes, like learning or acquisition of experiences, retaining, recalling and recognizing the correctness or otherwise recalled experiences.

Memory as a mental function has several salient characteristics of its own. Some of them are - need of learning or experience, retentive capacity of mind, ability to revive or reproduce, role' played by the unconscious mind etc.

Although memory is broadly divided into two types image and habit memory. There are other few types too like long and short term memory, logical memory, rote memory, associative memory etc.

There are certain marks of good memory like ability to learn quickly and easily, retain image in mind for a long time, and to reproduce them correctly.

Forgetting is generally regarded as an opposite function of memory, when there is inability to recollect the images stored in mind, it is called forgetting. But it should be remembered that forgetting is necessary for memory as well as a person good mental health.

Forgetting is universal in character and it occurs due to memory causes. These may be grouped into us physically and mental causes. Of the physical causes old age, brain injury, tiredness, drug addiction etc. are important. Of the mental causes a few noteworthy are lack of interest, retro-active-inhibition, repression etc.

QUESTIONS

1. What is memory? Give a few definitions of memory.
2. Mention some salient characteristics of memory.
3. Discuss the different stages involved in memory process.
4. Can there be good and bad memory? Justify your answer.
5. Write on a few types of memory. Give example.
6. What are marks of good memory?
7. Supposing yourself as a school teacher, how would you help a child to develop good memory?

8. What is forgetting? What are its characteristics?
9. Write on the important causes of forgetting.
10. Explain how memory can be improved.
11. Explain with example the following statements:
 - a. Forgetting is necessary for memory.
 - b. Memory and forgetting are like two-sides of the same coin.
 - c. Forgetting is a defence mechanism of mind.
12. Give short answer to the following:
 - a. Image memory.
 - b. Recognition.
 - c. Retro-active-inhibition.
 - d. Physical causes of forgetting.
 - e. Repression as a cause of forgetting.
 - f. Logical memory.
 - g. Retention.
13. Can memory be improved by practice? Discuss.
14. Discuss about different economic method of memorization.
15. Answer by writing "Yes" or "No" against each of the following statement :
 - a. Memory is revival of past experience.
 - b. For good memory image formation is not necessary.
 - c. Retro-active-inhibition is a physical cause of forgetting.

- d. Forgetting does not means inability to retain past learning and experiences.
- e. Retentive capacity is inborn.
- f. There is no difference between associative and role memory.
- g. Part method is helpful for memory.

16. Distinguish between :

- a. Image and habit memory.
- b. Recall and Recognition.
- c. Long and Short memory.
- d. Voluntary and natural forgetting.



UNIT - 5 (B)

ATTENTION AND INTEREST

CONTENT :

- ◆ Meaning of Attention
- ◆ Characteristics of Attention
- ◆ Conditions or determinants of attention
- ◆ Types of Attention
- ◆ Meaning of Interest
- ◆ Factors or Sources of Interest
- ◆ Types of Interest
- ◆ Relation Between Attention and Interest
- ◆ Educational Significance of Attention and Interest
- ◆ Developing Attention and Interest in Students

Objects :

- ◆ To give students proper concept regarding what is attention and interest.
- ◆ To make students aware of the different types of attention.
- ◆ To provide knowledge about determinants of attention.
- ◆ To provide student's knowledge on relation between attention and interest.
- ◆ To explain the sources and types of interest.
- ◆ To discuss about the educational significance of attention and interest.

INTRODUCTION :

We all know that our mind is capable of variety of functions. Two such important functions are attention and interest. These two abilities are essential for survival of human beings. The success of your academic life also greatly depends upon attention and interest. Hence it is necessary that you have some basic knowledge regarding these mental functions. In this chapter you will learn about meaning of attention and interest, type of attention, relation between attention and interest and their educational significance.

MEANING OF ATTENTION :

To acquire learning and experiences in life paying attention is very essential. Infact without applying attention, it is not possible to understand what is going in and around us. The scientist in order to discover something must pay attention in his experimental activities. Even to learn a small thing one need to pay attention.

Regarding meaning of attention or what IS attention, there are primarily two views. One view was held by a group of very ancient-psychologist, known as faculty theorists. According to them our mind is a composition of several special powers and attention is one of them. Hence according to faculty psychologists attention is a special power of the mind. It is an inborn capacity of every living creature.

But modern psychologists do not accept this idea. In their opinion attention is not a mental power but-an activity of the conscious mind. In this activity the conscious region of the mind is kept in control and directed towards a particular thing of the environment. This act of focusing our consciousness or concentrating consciousness on a particular thing, idea or object of the environment is called paying attention.

There are so many things in and around us. But attention is not paid to all these things at a time. Different objects of the environment affect on us as stimulus, and consequently we become generally aware of them. But that thus not mean paying attention. Out of many things that stimulate us one particular object or subject is selected and conscious mind is focused or connected on it. This focusing or concentrating consciousness on a particular object at a particular time is known as attention. Thus in the mental process called attention a particular object or subject of the environment is selected and consciousness is focused on concentrated on it. It should be remembered that some amount of mental effort is necessary for the act of attention.

Different psychologist have put forwarded their own view on definition of attention. Below a few of them are mentioned:

(A) W. R. Ryburn in his book “Introduction to educational psychology”, maintained that - “Attention is an activity of the personality and into it enter feeling and will as well as the fundamental activity we call cognition”.

(B) According to James Ross, “Attention is a process of getting an object of thought clearly before the mind.”

(C) In the opinion of the famous psychologists Guilford, “There is a conscious selection of what one is going to observe goes by the name of attention.

CHARACTERISTICS OF ATTENTION :

In order to understand clearly the nature of attention, it is necessary to discuss its characteristics. Some important characteristics are mentioned below:-

- a) Attention is not a mental power, but a mental activity.
- b) In the process of attention conscious mind is concentrated on some object or idea.
- c) Attention is not paid to each and everything that stimulates our sense organs.
- d) Selectivity is an important characteristic of attention our mind always selects one out of many in order to pay attention.
- e) Attention is mobile in nature. It shifts from one thing to another very quickly.
- t) While paying attention consciousness is fixed on the object of attention for a while. Hence attention is also called a fixation activity of the mind.
- g) Limitation is a notable characteristic of attention. Very limited objects or ideas can be attended at a particular span of time.

Points of remember :

1. According to ancient faculty theorist attention is mental power.
2. Modern psychologists consider attention as a mental power.
3. Attention is an act of focusing or concentrating our consciousness on a particular object or idea of the environment.
4. Attention is selective.
5. Attention is dynamic.
6. Attention is an act of fixation.
7. Attention is explorative.
8. At particular span of time we can attend to a very limited objects or idea.

CONDITIONS OR DETERMINANTS OF ATTENTION :

We are more likely to attend to something than to other and the psychological problem is to find out what kinds of things are more likely to catch and hold our attention. There are certain factors which produce and control attention in a person. These factors are known as determinants or conditions of attention. Conditions of attention are divided into two groups as

- (a) Objective or external conditions
- (b) Subjectives or internal conditions

(a) Objective or external Conditions :

Objective or external conditions of attention are those characteristics

that are found in the objects or stimuli which can easily draw our attention. Here the voluntary efforts of mind for attention is not required. Some important objectives conditions which impels a person to attend to an object are mentioned below

(1) **Intensity** : Attention is directly proportional to the intensity of the stimulus. A strong stimulus is more likely to be noticed than a weak one. A loud noise, a sparking light and deep colour attracts our attention at once.

(2) **Size** : The size of the object is generally responsible for the degree of attention that it can command. A small size provides low stimulus and bigger size provides strong stimulus to attend. So, a big advertisement or a tall building or an elephant easily attracts our attention.

(3) **Movement** : A moving objects can catch our attention at once as compare to a stationary object. Therefore a motion picture or television are better as aids to teach as they involve movement.

(4) **Novelty** : Novelty is a great attention catching device. Newness of the object is of universal appeal to all people. New fashions in dress generally become popular because of some novelty.

(5) **Contrast** : A contrasting situation on attracts our attention easily.

Contrasting colours, contrasting size etc. attract our attention. A tall and a short person walking together attract your attention.

(6) **Repetition** : Repetition of the same stimuli compels to attend. The alarm of a clock would go unnoticed, if it strikes only once. To attract our attention advertisers repeat particular advertisement again and again.

(7) **Change** : Change in the stimulus or change in the intensity of stimulus catches our attention at once. The ticking of a wall clock goes unnoticed, but it arrests attention as soon as it stops. A speaker in a normal tone may suddenly raise his voice to attract the attention of the audience.

(8) **Secrecy** : We have a tendency to attend to secret and veiled things. So, movies marketed for the adults draw more attention to the young adolescents.

(9) **Situation** : Situation or location of an object may act positive as a factor to draw our attention. Important news is published in a specific area of the news paper for the purpose.

(10) **Discipline** : Generally we are more attracted towards the objects that are presented in a disciplined way.

(b) Subjective or internal conditions of attention :

Subjective or internal conditions of attention are inherent in the individual or the subject. Some of them are inborn and some are acquired factors. Some subjective conditions of attention are

(1) **Instincts** : Inborn instinctive tendencies urge the organism to attend to situation with typical kind of behavior. Thus paying attention to certain type of object is natural and instinctive. For example, hunger makes one attend to food.

(2) **Emotions** : Under the influence of some emotions, we attend to the objects or the situations pertaining to these emotions. For example, Under the emotion of fear all our attention will be fixed at the object of fear.

(3) **Temperament** : Different people have different temperament. Accordingly a man with religious bent of mind is more attentive to religious matter.

(4) **Sentiment** : Our sentiments impels us to pay attention to the objects of our sentiments. Mother attends to every aspect of her child out of sentiments.

(5) **Habit** : We habitually attend to certain things and not to others. A pick-pocketers has an eye on pockets.

(6) **Interest** : Interest and attention go side by side. We pay attention to those things for which we have interest. In a shop, the articles you wish to buy catches your eye, even through other articles are more prominently displayed.

(7) **Mood** : Our mood always influences the direction of attention. If somebody is seriously ill at home, you find it difficult to pay attention to your office work. If you are in a pleasant mood, you pay attention easily.

In conclusion, it is worth mentioning that the external factors help in attracting one's attention temporarily. But a teacher's main concern is to sustain the attention of students. For this internal conditions of attentions are most important to pay attention continuously to an activity or object. External factors are mainly useful in pre-primary and primary schools, but a teacher will have to rely more on internal conditions at the high school and higher level.

Point to remember :

Objectives or external factors of attentions are : Intensity, size, movement, novelty, contrast repetition, change, secrecy, situation, discipline etc.

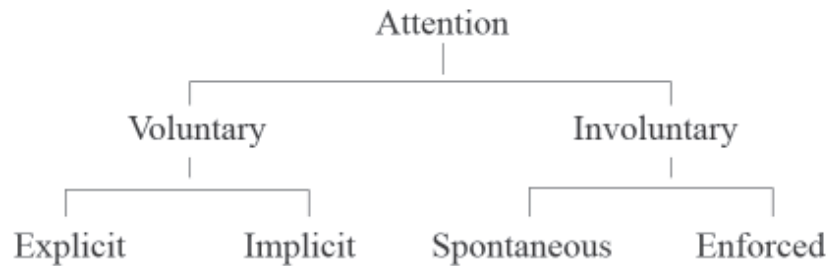
Subjective or internal factors are : Interest Instincts, Emotions, Sentiments, Temperament, Habit, Mood etc.

TYPES OF ATTENTION :

On the basis of the nature and characteristics of attention it has been divided into several types. Two important and common types are - Voluntary or Volitional and involuntary or non volition. These two types are determined on the basis of individual's mental readiness to way attention.

(a) Voluntary or Volitional attention : To volunteer means to offer to do something out of one's own will. As the name implies in voluntary or volitional attention, attention is paid without any outside interference or force. When an individual is physically and mentally ready to pay attention, and he does it out of his own will, it called voluntary attention. His strong mental will and preparedness inspires him to pay attention. For example, a student with strong will to shine in life will pay attention to his studies in spite of poverty. However it should be remembered that volitional attention is not possible in case of little children. Only grownup children and adults are capable of this type of attention.

Voluntary attention is again divided into two types - Explicit voluntary and Implicit Voluntary.



Two main types of Attention

Explicit means the one that is clear and definite. Explicit voluntary attention is paid clearly and definitely, due to the demand of the situation. In this type external condition of the environment forces on individual to pay attention. Thus voluntary attention that is paid immediately due to the attractive capacity of the stimulus is known as explicit voluntary attention.

Implicit voluntary attention on the other hand, is opposite to the explicit type. This type of attention comes from within and not created by external factors. When one is deeply involved with something his attention naturally develops from within towards that object. However mental maturity, a high level of intelligence, mental determination etc. are essential for paying this type of attention.

(b) Involuntary or Non-voluntary Attention : As the name implies, this type of attention is opposite to voluntary or volitional attention. In voluntary attention is created not by one's interest or will, but by the strong attractive capacity of the stimulant. If anything of the environment is very strong and attractive, it affects one very instantly and tremendously. Consequently even if one's not mentally ready, to pay attention, his mind is

drawn towards that stimulus. Hence involuntary attention is neither instinctive non voluntary. It also does not require much mental maturity, higher intelligence etc. attention one pays towards a blowing horn, a very bright light etc. are examples of such voluntary or non-volitional attention.

Involuntary attention is again subdivided into two types-enforced and spontaneous non-voluntaries.

In case of enforced non-voluntary attention the person is forced to pay attention due to the very strong and influential nature of the stimulant, For example we are forced to pay attention if somebody shouts very loudly. Little children are not mentally matured enough to pay voluntary attention. Hence non-voluntary enforced attention is common in them.

Spontaneous involuntary attention as the name implies is not forced on by external influential quality of the stimulant. In this type of attention sensation created by a stimulus develops some kind of interest and positive attitude in the individual towards the object. This condition makes one spontaneously attentive to a particular object or idea of the environment. The attentions we pay towards a beautiful piece of music or a novel of our interest are examples of spontaneous involuntary attention.

Besides voluntary (volitional) and involuntary (Non-volitional) attention, psychologists have also pointed out some other kinds of attention. A few of them' are mentioned below :

(a) Ideational and Sensory attention : When attention is dependent on an individual's personal thoughts, ideas, imagination etc. it is termed as ideational attention. It is not influenced or created by sensory stimulation by some external factor of the environment. Thus when attention is paid not

due to the presence of external stimulant, but because of on mental thoughts, ideas, imagination etc. it is called ideational attention. For example when an individual become mentally engrossed in something and may even become unconcerned of what is going in and around him, it is due to ideational attention.

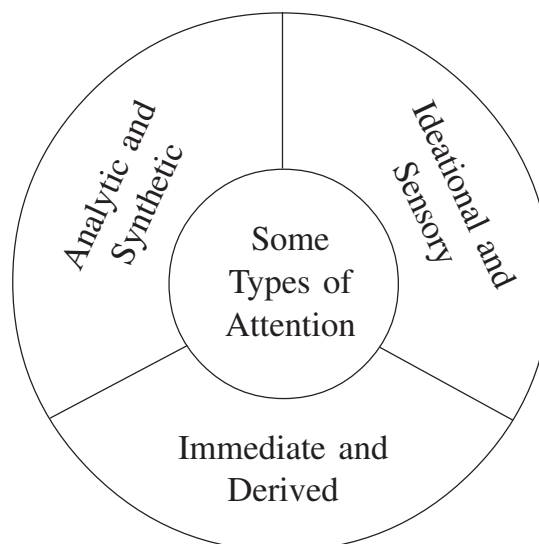
Sensory attention is opposite to the ideational attention. When attention is paid due to stimulation of the sense organs, it is termed as sensory attention. This type of attention is dependent upon three conditions. They are attractive capacity of the stimulant or object of attention, alertness and sensorial abilities of the five sense organs, and readiness of the brain to act. Thus attention paid due to stimulation of the five sense organs by strong stimulant is termed as sensory attention. For example the attentions we are pay to a blowing horn, or a bright light are examples of sensorial attention.

(b) Analytic and synthetic attention : On the basis of the nature of attention we pay, it is divided in analytic and synthetic type. When while paying attention every aspect of the object or idea is observed minutely it is called analytic. Instead of looking at the object of attention as a whole, in analytic type, attention is focused on the details of an object. For example, while buying a dress if we pay attention to all the aspects like the price, the quality of the material, and the design etc. it is case of analytic attention.

Synthetic attention on the other hand is opposite to the analytic one. In this type, the object or idea is observed as a whole. Instead of giving importance to the various parts of an object separately, they are combined together and the object is studied or observed as a whole. When one pays attention to a picture as a whole instead of looking separately to its components, it is called synthetic attention.

(c) **Immediate and Derived attention** : Attention is also divided into another two types called immediate and derived. This is done on the basis of the attractive ability of the object or the idea of attention. If the object or the stimulant of the environment is very strong and attractive, it draws one's attention immediately. Generally some peculiar condition of the object or idea creates this type of attention. For example specialty in size, novelty, intensity etc. of the object may draw attention immediately.

In derived type, attention is not paid to an object because of its own attractive quality, but due to something connected with it. An object or idea may not be strong and attractive to draw attention towards it. But if something very important and attractive is connected with the object, we pay attention due to the factor. This is derived attention. For example we pay attention to the date 15th August, because it is connected with our independence.



A Few Types of Attention

Activity-1

Teachers may ask students to give some practical example of their life which represents different types of attention.

MEANING OF INTEREST :

Attention is focusing consciousness on a certain object or idea of the environment. Interest on the other hand is regarded as the most important internal condition that inspires an individual to pay attention.

The word interest is originated from a Latin word which means, “It matters” or “It concerns”. When something matters or concern for an individual, it means he has interest in that object or idea. A boy is interested in cricket. It means the sport called cricket matters to him or he is concerned about it.

There are certain characteristics of interest and it is necessary to know about them in order to understand the nature of interest better.

- (a) Interest is that innate state of mind which inspires one act from within.
- (b) Everyone of us is blessed with feelings and interests generally originate from them.
- (c) Interest may be innate or acquired. Those interests which origins from instincts are called innate. For example interest in food is originated from instinct of hunger. Acquired interests are those that are acquired as a result of learning experience and training. Interest in playing a musical instrument is an example of acquired interest.

- (d) Interest may be long lasting as well as temporary. The interest of parents in the well-being of their children is a long lasting one. On the other hand the interest in the morning news paper is a temporary one.

Points to be remembered

- (a) Interest is a inherent condition of attention.
- (b) The word interest is derived from a Latin word that means “It matters” or “It concerns”.
- (c) Like attention interest has also certain characteristics.
- (d) As interest causes attention, so also effortful attention may induce interest.

FACTORS OR SOURCES OF INTEREST :

Every individual has his own interest. It depends upon certain psychophysical factors. Some important source or factors of interest are mentioned below -

(a) Innate tendencies : On various occasions innate or inborn tendencies are basically responsible for our peculiar interests. From the early childhood it can be easily seen that the instinctive drives play a great role in making children interested in one thing or the other.

(b) Age : Interest varies as one grows older. Thus age is also a source of interest.

(c) Sex : Interest is influenced by sex differences. Sex differences account for the pattern of preferred hobbies and leisure time activities of boys and girls.

(d) Physical conditions : What a person does and likes to do is determined in part of least by his physical ability. Thus interest depends upon physical efficiency and readiness. Physically healthy person can only be interested and enthusiastic of anything.

(e) Intelligence : Intelligence is also another source of interest. Ability differences are accompanied by interest differences.

(f) Socio-economic status : Individuals coming from different socioeconomic environments show different pattern of interests. Culture and social environment are great determining factors of interest.

(g) Learning and habit : Learning and habits are factors of interest, learning and habits make one concerned of anything. The effects of learning over a period of time are reflected in everything the child does.

Moreover, sentiments, complexes, wishes ideals, motives, goals of life and attitude of an individual act as determining factors of interest.

Point to remember :

Interest is an individual affairs. Main sources of interests are

- | | |
|-----------------------|---------------------------|
| (a) Innate tendencies | (b) Age |
| (c) Sex | (d) Physical condition |
| (e) Intelligence | (f) Socio-economic Status |
| (g) Learning | (h) Sentiments |
| (i) Complexes | (j) Wishes |
| (k) Ideals | (l) Motives |
| (m) Goals etc. | |

TYPES OF INTEREST :

On the basis of specific nature and characteristics interest may be classified into different types. A brief description of them is presented below.

(a) Innate and acquired interest :

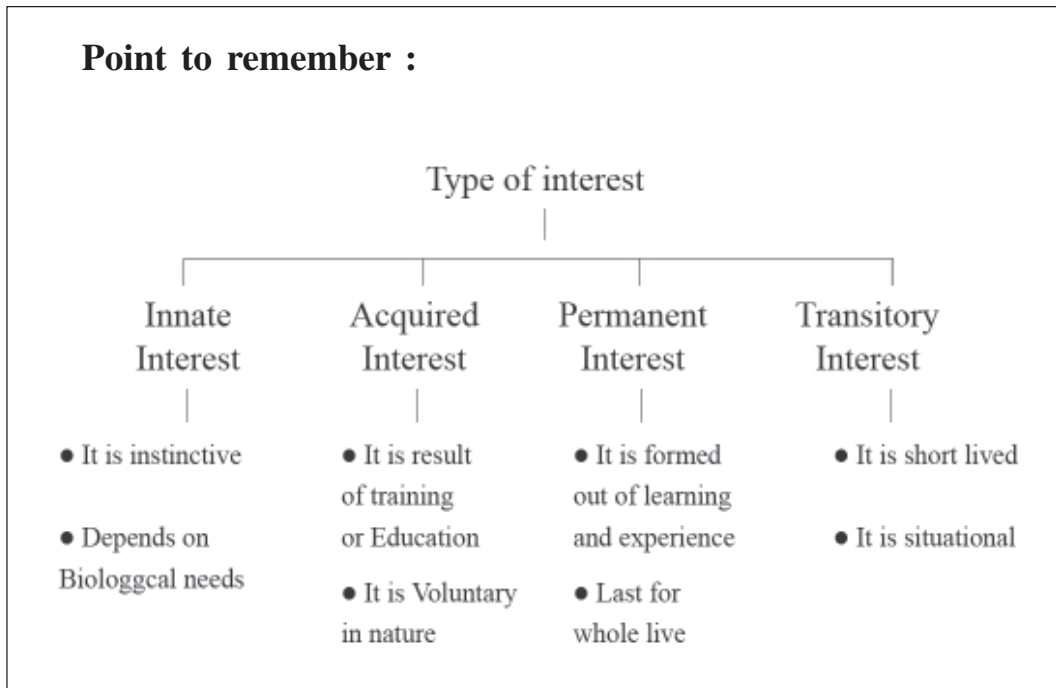
Innate interests are interests arising from natural tendencies like instincts and emotions. Hence, innate interests are known as instinctive interests. Mother's love or interest in her child, an adolescent's interest in the opposite sex etc. are examples of innate interests. This kind of interest is inborn and no conscious process is involved with it.

Acquired interests are due to acquired dispositions like sentiments, habits, character, ideals and tastes. These are results of training and education received in the environment. An acquired interest is the interest which is deliberately derived by a person. Interest of a musician towards music may be cited here as an example of acquired interest.

(b) Permanent and transitory interest :

Interest may be permanent or it may be short-lived. Permanent interest may be formed out of learning and experiences. These are deep-rooted interests. Interest of a scholar towards his specialized subject, interest of a business man towards his profession are examples of permanent interest.

Transitory or temporary interest lasts only for a short time. This type of interest is motivated by some temporary external force at a particular point of time. It is situational in nature. Our interest in the morning newspaper is a clear indication of temporary interest.

Point to remember :**RELATION BETWEEN ATTENTION AND INTEREST :**

Attention is focusing or concentrating conscious mind on some object or idea of the environment. Interest is that mental state which induces attention. Hence it is very much evident that there is close relation between attention and interest.

Interest is an inherent mental factor that exists in every human being. It is the interest that makes one concerned about a particular thing of the environment and pay attention to it. It is difficult for a student to pay attention to a subject in which he does not have interest. Thus the most essential internal factor or condition of attention is interest. Interest in an object makes one pay attention ,to it very naturally without any effort.

In view of the close relation between attention and interest Mc. Dongall in his book “An outline of psychology” made a beautiful remark. He stated that, “Interest is latent attention, and attention is interest In action”. What he implied is that attention and interest are so closely related that one cannot be completely separated from the other. So long attention remains hidden in our mind, that state may be called interest. The same latent or hidden interest when becomes active, it is called attention. Thus according to Mc. Dongall attention and interest are very closely associated.

Emphasizing on the relation between attention and interest, J. S. Ross in his famous book “Groundwork of Educational psychology”, stated that attention and interest are like “two sides of the same coin” one can not be separated from the other and one has no value or existence without the other.

But there are some psychologists who do not accept the View that interest is always essential for attention and that attention can not occur without interest. They pointed out that attention can be paid to an uninteresting objects or idea too. Again when necessary an individual pay attention to something voluntarily even if he is not interested in it.

Some psychologists stated that it is not always true that only interest can cause attention. Attention can also sometimes develop interest. For example at the initial stage, a student may not be interested in a particular subject. But if he puts more effort to pay attention, interest in that subject will develop gradually.

Thus in conclusion it may be pointed out that attention and interest are closely related and as interest causes attention, so also attention can develop interest.

Activity -2

Teacher may ask students to give some own examples

- (a) Where attention is caused by interest.
- (b) Where it is possible to pay attention without interest.

EDUCATIONAL SIGNIFICANCE OF ATTENTION AND INTEREST :

Attention and Interest are two very important and essential functions of mind. Attention is focusing concentration on a subject or object of the environment. Interest on the other hand is the most important latent condition of attention. It is therefore evident that both these factors have great educational significance.

Psychologists have emphasized on the fact that attention and interest play pivotal roles in the field of teaching and learning. Without them learning efforts will bear no fruits. A student's success in academic life primarily depends upon their attention, and interest in the learning process.

Because of their educational importance attention and interest are regarded as both "means and ends" in education. For effective learning readiness and alertness of mind are very essential. Only attention and interest can develop them in students. From this point of view attention and interest can be regarded as means of learning. Again modern educationists are of the opinion that the teacher's primary responsibility is not to teach, but to develop attention and interest in students. From this point of view attention and interest may be called end in education.

A traditional teacher used to explain everything to the students. Students remained passive listeners in the classroom environment. But modern education gives importance on self-learning of the students. A Teacher's responsibility is to create attention and interest in such a way that they are motivated for self learning. Thus developing attention and interest are the primary responsibility of the teacher.

DEVELOPING ATTENTION AND INTEREST IN STUDENTS :

It is known to all that learning without attention and interest is meaningless. Hence developing these two essential qualities in children is a primary responsibility of every teacher. In fact the success of teaching carrier depends to what extend a teacher can motivate his students for learning. In order to develop attention and interest in students, the teacher must have knowledge of all the external and internal factors that effect on them. Accordingly he should use interesting teaching methods and techniques to attract attention and interest of students in classroom situation.

A teacher may keep the following few points in mind to develop and sustain students' attention and interest in learning : -

- (a) There are several objective and subjective conditions of attention. Some of the important objective conditions are- size of an object, brightness, novelty, contrast, mobility etc. While teaching in lower classes the teacher should remember them. For example use of bright picture, bright coloured teaching materials etc. can easily attract attention and interest of small children. On the subjective conditions repetition, desire, interest, emotion, temperament etc.

are important. While teaching students of higher classes these factors may be taken care of by the teacher to make teaching more effective.

- (b) One general practice followed in our schools is to use reward and punishment and motivating factors. But although it is favoured too much use of reward and punishment should be avoided. Because its frequent use will not serve the actual purpose. Again physical punishment should be avoided as far as possible.
- (c) Teacher should give importance on learning by doing and self-learning by the students. Along with theoretical explanation, if scope of practical learning is provided students will automatically pay more attention and interest.
- (d) Repetition is necessary in teaching-learning process. But too much of it will make learning boring. Hence to sustain attention and interest repetition of the same subject matter again and again should be totally avoided.
- (e) The period of learning should not be too lengthy. Because it makes students mentally tired and consequently they can not concentrate. Particularly in lower classes, to keep students attentive, learning period should be of short duration.
- (f) It is said that “laughter is the best medicine”. In order to develop and sustain attention and interest of students in the class room teaching, the teacher can use humor. However he must know the proper use of humor at proper reference during teaching process.

Activity-3

The teacher may ask his students to imagine themselves in the role of a teacher and ask them to verbally reply or write in short, how they will discharge the following responsibilities-

- (i) The measures to be taken to develop attention and interest in children between age group five to seven.
- (ii) How to increase attention of adolescent boys and girls in classroom situation.
- (iii) The teacher may ask students to develop one teaching aid per student that may help in developing interest in studies.

Or

It can be done by groups of students.

SUMMARY OF THE CHAPTER :

Attention and interest are two very essential mental faculties. Attention means focusing consciousness over certain object or subject of the environment. It is selective and mobile in nature. There are several types of attention like voluntary and non-voluntary. Ideational and sensorial, analytic and synthetic, immediate and derived attention etc.

Interest is that mental factor which induces attention in individuals. In fact interest is regarded as the main internal determinant of attention.

There is close relation and interdependence between attention and interest. They are like two sides of the same coin. As interest creates attention, so also attention, when put voluntary can develop interest.

From educational point of view attention and interest bear significant value. Because academic achievement of students primarily depends upon these two factors. They can be called both “means and ends” in education. It is attention and interest that motivate one to learn something. Hence they may be called “means” in education. Modern psychologists are of opinion that a teacher’s primary duty is to develop attention and interest in students for self learning. From this point of view attention and interest may be called “ends” in education.

As proper learning can not take place without attention and interest, it is necessary to take steps to develop these qualities in children. In this regards the teachers have the primary responsibility. They should adopt various teaching techniques; use novel teaching aids etc. to create attention and interest in children situation. Besides teachers, the school environment, home environment, and social condition can also play important role in developing attention and interest.

QUESTIONS :

1. What is attention? Give a few definitions of attention.
2. Mention the salient characteristics of attention.
3. Discuss the following types of attention. Give examples- (a) Ideational and Sensorial attention (b) Analytic and synthetic attention.
4. What is interest? What are its characteristics?
5. Discuss the relation between attention and interest.
6. Write on the educational- significance of attention and interest.

7. What is attention? Describe its determinants.
8. What is interest? What are the factors on which interest depends?
9. Describe different types of interests. 10 Distinguish between -
 - (a) Innate and acquired interest.
 - (b) Transitory and permanent interest.
 - (c) Volitional and non-volitional attention.
10. Explain the following statements: -
 - (a) "Interest is latent attention and attention is interest in action".
 - (b) Attention and interest are like "two sides of the same coin".
 - (c) Attention and interest are "means and ends in education".
11. Supposing yourself as a primary school teacher, what steps will you take to develop attention and interest in children?
12. Write on the following Nature of attention.
 - (b) Volitional attention, give example.
 - (c) Meaning of spontaneous involuntary attention.
 - (d) Explain with example the nature of Analytic attention.
1. What are immediate and derived attentions?
2. Give the meaning of interest.
3. What do you mean by Innate and acquired interest?
4. Mention the characteristics of interest.
5. What is sensorial attention? Give example.

14. Answer the following by writing “correct” or “incorrect” against each statement:
1. Attention does not imply focusing consciousness.
 2. Interest is a latent condition of attention.
 3. Children of all ages can pay analytic attention.
 4. Voluntary attention can be paid only by little children.
 5. Interests originating from instincts are called innate interests.
 6. One can not pay attention for ‘a long duration.
 7. Acquired Interests are universal in character.
 8. Two things cannot be attended at one time.
 9. There is no relation between attention and interest.
 10. 10. One’s interest may be long lasting or temporary.



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UNIT - 6

MENTAL HEALTH AND HYGIENE

CONTENT :

- ◆ Mental Health and Hygiene
- ◆ Meaning of Mental 'Health' and Hygiene
- ◆ Preservation of Mental Health
- ◆ Mental Hygiene
- ◆ Definitions of Mental Hygiene
- ◆ Purposes of Mental Hygiene
- ◆ Functions of Mental Hygiene
- ◆ Aims of Mental Hygiene
- ◆ Scope of Mental Hygiene
- ◆ Importance of Mental (health and) Hygiene
- ◆ Mentally Healthy Individual
- ◆ Characteristics of Mentally Healthy Individuals
- ◆ Role of family in Development of Mental Health
- ◆ Role of School for Proper Mental Health Development
- ◆ Questions

OBJECTIVES :

After reading this chapter, students will be able to –

- ◆ Describe in details about the mental health.
- ◆ Define the mental health.
- ◆ Explain about the characteristics of mentally healthy individuals.
- ◆ Explain the concept of mental hygiene.
- ◆ Define mental hygiene.
- ◆ Describe the functions, aims and scopes of mental hygiene.
- ◆ Discuss about the importance of mental hygiene.
- ◆ Discuss about the role of the home and school for proper development of mental health.

Health is a state complete physical, mental and social well-being of an individual and it is not merely the absence of disease or infirmity – World Health organisation.

INTRODUCTION :

We have already come to know the concept of psychology. Psychology studies the human mind in details. Psychology studies systematically the functions of human mind, mental processes, experiences and behavior in different contexts of life.

The mental health of the human being has close link with every pattern or form of behavior. Health determines the level of behaviour we manifest. Therefore, to study human behaviour, mental-health of the human being should be thoroughly studied. Healthy body carries a healthy mind and a healthy mind makes the mental processes very strong. Therefore, we are to keep our mind healthy. In this unit we will discuss about mental health and hygiene.

MENTAL HEALTH AND HYGIENE :

The term mental very simply means having to do with the mind, Parallely the term health means the state of being free from illness. Thus, mental health very simply means the state of being mentally free from illness. In other words it means illness free mental condition of an individual.

Mental health and hygiene more or less depend on the systematic use of the mental or psychic potentialities of the individual. This process is not very easy in practice and it is to be well cared of, for better personal life. Mental health has the most important necessity for a better and balanced society.

The question of mental health has become the most important and common question today. In every part of the society we meet and find many people who are any away suffering from different mental problems. The main cause of such problems is the rapidly changing pattern of life styles. We are living in a very dynamic society which is changing very rapidly because of the advancement of modern science and technology. Social norms, customs, traditions, and values all are rapidly changing. These changes have made our life more challenging. People who are mentally healthy, they have the capacities to face such challenges, and are able to face the problems of life successfully. But those people who are mentally weak they have failed to face the challenges. As a result they are in strains, in the emotional problems, and have failed to adjust with life situations. Thus, they have many problems relating to this mental life and failed to face life courageously. Age related problems, emotional problems, adjustment problems etc. are some of the major problems which are the result of poor mental health.

MEANING OF MENTAL HEALTH AND HYGIENE :

Concepts, like mental health, hygiene and mental problems or mental illness are not very new. These concepts have long history. People are well acquainted with the ideas and meaning of all the important terms. Hippocrates, Aristotle, Galen, all have explained the term from their own experiences of life. Hippocrates (460-377 B.C), a Greek Physician have pointed out towards different personalities or temperaments. In his words mental sickness is a disturbance of four body fluids or humors. Aristotle (384-322 B.C), a Greek Philosopher and scholar has explained that the mind has link with the heart.

Galien (130-200 A.D), another Greek Physician, and a most influential figure of Roman Period, accepted and extended the humoral Pathology of Hippocrates. He made an outstanding original contribution on the anatomy of the nervous system. In the words of Galien emotional or mental illness have link with the brain.

In the late eighteenth and early nineteenth centuries some new concepts which helped to understand the problem of 'mental health' were developed in France. Thus, gradually many changes took place and more or less in all parts of the globe new changes and developments have taken place. In the words of Kisher (1964), 'The progress took the form of the expansion of mental hospitals, the after-care movement, the family care system, the open-door policy and the mental hygiene movements.' It was Ebnil Kraepelin who was the pioneer worker of the late nineteenth and early twentieth centuries in classification of 'mental illnesses. This was primarily based on the course of the disease, its symptoms and causes as well.

Mental health, as we have explained already, is a state of being mentally free from illness or injury. It means illness free or injury free mental state or condition of an individual. In Precise explanation mental health means sound mental condition or Physic state of an individual.

In the words of Hilgard (1962), 'mental health means absence of mental illness: more positively, a state characterized by' adjustment, a productive orientation and zest. To means mental illness he further explains, 'Mental illness means emotional, motivational and social maladjustment severe enough to infer with the ordinary conduct of life.

Psychologists have forwarded different explanations of mental health. But such explanations have failed to forward systematic and concrete concept of mental health.

Point of Remember

- The term hygiene in originated from the Greek term 'hygiene', which means 'of health'.
- Hygiene was the Greek goddess of health or healthy living.
- According to Hippocrates mental illness is a disturbance of four body fluids
- Aristotle was a Greek Philosopher and Scholar.
- Galin was a Greek Physician.

PRESERVATION OF MENTAL HEALTH :

Mental health has specific importance for a better and balanced growth of personality. To lead a good life everybody should possess good mental health. For the progress of individual and the social life as well mental health should be quite sound. Without sound mental health no individual can lead a peaceful life. For education also, there is the need of sound mental health. If our children become poor from the mental aspect they can not properly utilize their mental potentialities. And if they failed to utilise the mental potentialities in a proper manner the process of personality growth becomes very defective. Thus, to help the individual to be mentally strong parents should be more sympathetic towards them. They should carefully

look after the proper growth of emotional aspect of their children. Instead of harsh treatment towards the childish behavior, judicious and sympathetic attitudes should be exposed in their approaches. To treat the mentally disturbed individuals, psychologists have prescribed various approaches and principles. According to them the use of sedation, good nutrition, good physical hygiene, music, games and sports, meditation, and different leisure time activities, viz. riding, walking, participating in educational tour, social services etc. Mental support, positive attitude, encouragement, friendly behaviour etc. are some of the important steps which are necessary to help the mentally ill and sick people. Fresh air, peaceful environment, and provision of routine diet etc. are also necessary to help the mentally ill or sick persons to get early relief from their problem.

In brief, necessary support of the own people and social support have special importance for the mentally ill people. The philosophy of mental health is mainly concerned with healthy living. For healthy living, we are to realise the value of our health. The principles of mental health are mainly concerned with the rules and discipline of life which helps us to keep physically fit for a good life. Physical fitness depends on the mental fitness of every person. Therefore for a healthy life we should both physically and mentally be free from illness, tension, depression and stress.

Activity-5.2

Do a survey on mentally ill people and try to enlist their behaviour what we should do for sound mental health?

MENTAL HYGIENE :

With the term mental health there in another term, i.e. Mental Hygiene which has vary close connection. The term 'hygiene' is derived from the Greek term 'hygiene', meaning 'of health'. Thus, the term hygiene means the practice of keeping oneself and one's surrounding clean in order to prevent illness or disease. In other words hygiene in the science which helps us to know the techniques of the preservation of health. People are of the opinion that with the term hygiene the name of Greek Goddess 'Hygeia' has close link. The mythological explanations help us to know that Hygeia was the goddess of health or healthy living.

From modern perspective, hygiene very simply means 'an art of living'. This art is very important art of keeping the body and mind healthy. Thus, hygiene is an art of leading healthy life. Healthy life generally means disease free physical and mental life.

Because of rapid social changes, modern life has become very easy and comfortable. Technological changes have brought amount many changes to the material perspective of society. No doubt, such changes have helped our civilization to advance more. The more civilization has advanced, the more life has become complex. Such complexities have brought many challenges towards our life. As a result, mental tension, conflict, stress etc. are increasing. The technological advancements have helped our society to advance industrially. Such advancements have more or less encouraged us to reduce our physical labour. As a result in most of the situations of our life, people now-a-days have suffered from the problem of imbalance psycho-physical labour. Such situations have created the problem of psycho-physical disturbance.

Because of such situation, the process of mental growth, more or less has become complex. As a science of healthy living mental hygiene helps us to study all the major issues concerning to the process of peaceful life. In brief it studies:

- the cause of mental illness;
- the means of prevention of such illness or to know and apply practically the preventive measures;
- to help to know the art of leading healthy life;
- to realise the importance of the values and follow them to lead a better balanced life.

DEFINITIONS OF MENTAL HYGIENE :

Psychologists have forwarded many definitions of mental-hygiene. Some of the definitions are as given below:

In the words of Coville, 'Mental Hygiene consists of measures to reduce the incidence of mental illness through prevention and early treatment and to promote mental health.'

In the words of Singh, 'Mental Hygiene is that science which studies laws and means of curing and preventing mental disease, personality disorders and other abnormalities for balancing adjustment and healthy development of personality.'

In the words of Crow and Crow, 'Mental Hygiene is a science that deals with the human welfare and pervades all fields of human relationship.'

In the words of Hadfield, 'Mental Hygiene is concerned with the maintenance of mental health and the prevention of mental disorders.'

From the definitions given above we can summaries our explanations

and define mental hygiene as a science which deals with the activities of human welfare with special emphasis on sound mental health. It is such a science which deals with all the activities of proper human relationships.

PURPOSES OF MENTAL HYGIENE :

Mental hygiene emphasises on the processes of systematic maintenance of mental health. For this it gives special importance on the maintenance of proper human relationship among all the people living in a society. Thus, the main purposes of mental hygiene as Crow and Crow explain are as the given below:

- (a) the development of an understanding of the relationship that exist between personality development and life experiences;
- (b) The preservation and improvement of the mental health of the individual and of the group; and
- (c) The discovery and use of techniques through which assistance can be given to those who are mentally ill.

FUNCTIONS OF MENTAL HYGIENE :

The main functions of mental hygiene may be discussed under the specific ways. They are:

(a) Preventive Function:

The main function of mental hygiene is the prevention of mental illness, personality disorders and the problems of adjustment. Mental hygiene helps us to understand the causes of mental illness, personality disorders and the

problems of adjustments of the human child. It helps to know the ways and means of preventive measures that are to be well cared of to overcome all the problems concerning to mental illness, personality disorders and adjustment processes of the human child. Experts have suggested some psychological measures to overcome the problems concerning to mental illness, personality disorders and adjustment processes of the human child. Such measures are:

- (i) Proper nurturance;
- (ii) Pre-education for the adolescents;
- (iii) Development of emotional and social requirements;
- (iv) Vocational adjustment;
- (v) Training for proper style of living.

(b) Curative Function :

Curative function of mental hygiene emphasises on the treatment techniques. Mental hygiene not only helps to know the problems of mental illness, problem of personality disorder and the adjustment problem of the human individual. It also helps to know the techniques of treatment to get relief from the problems.

(c) Preservative Function:

Preservation of mental health has special importance of individuals and society as well. Without sound mental health the prosperity of individual and social life both are not possible. The preservative function of mental hygiene specially helps us to know the importance of mental health and the

measures, techniques, procedures that are to be followed for its preservation. This function is specially concerned with the welfare of human life and society as well.

Activity-5.3

Explain the concept of mental hygiene. Analyses some of the definitions and try to determine the purposes and functions of mental hygiene.

AIMS OF MENTAL HYGIENE :

The aims of mental hygiene are very broad and wide extensive.

Such aims may be specified as:

- (i) it aims at preserving mental health;
- (ii) it aims at developing personality to help to adjust properly to the environment;
- (iii) it aims at preventing the mental defects of an individual to help to develop a balanced and harmonious personality;
- (iv) it aims at treating all the personality disorders which cause mental problems and illness.

SCOPE OF MENTAL HYGIENE :

The scope of mental hygiene is very wide. Mental hygiene helps to know the causes of mental disorders or mental disturbance. The causes of mental illness can be well understood with the help of the knowledge of mental hygiene. It helps to know the preventive measures to overcome the mental problems. To help to get relief from the mental disorders the

knowledge of mental hygiene has special significance. It helps to realise the importance of good mental health. The process of personality development can also well be understood with the help of the knowledge of mental hygiene. Mental hygiene helps to know the ways and means of the systematic growth of personality. The importance and the process of harmonious growth of personality can be well known with the help of the knowledge of mental hygiene. It also helps to know the process of adjustment.

Mental hygiene studies the mechanisms of adjustment, i.e. the mental or defense mechanisms which are accepted as the means to resolve the mental tension or conflict or minimise their intensity for sound mental health. Such mechanisms are: repression, suppression, inhibition, regression, conversion, sublimation, rationalization etc. Mental hygiene has close link with all the processes of adjustment which are important for good mental health. Any way, the scope of mental health is mainly concerned with the systematic growth of mental life and personality of the human child.

IMPORTANCE OF MENTAL HYGIENE:

The knowledge of mental hygiene has special importance for all.

Without sound mental health man can not lead a peaceful and happy life. Therefore, to understand the importance of mental health and hygiene the knowledge of both mental health and hygiene have special importance.

Mental hygiene helps us to know :

- ◆ the importance of mental health;
- ◆ the techniques keeping oneself mentally healthy;
- ◆ the characteristics of a mentally healthy individual;

- ◆ the causes of mental illness;
- ◆ the ways and means to get rid of mental problems.

Activity-5.4

How the knowledge of mental hygiene helps us? Why we should study the literature of mental health and hygiene. Discuss with your teacher.

Parallely mental hygiene helps us to know that :

- ◆ mental illness is more or less inherited;
- ◆ mental illness is not the result of any misdeeds;
- ◆ mental illness is curable;
- ◆ mental illness can easily be treated;
- ◆ mental illness compels man to behave abnormally.

MENTALLY HEALTHY INDIVIDUAL :

An individual who is able to adjust with different situations of life without any major problem can be defined as mentally healthy individual. A mentally healthy individual does not manifest any abnormality in facing different situations of life. Such individuals do not have any major problem of personality mal-adjustment. In a sense, a mentally healthy individual is :

- ◆ physically healthy;
- ◆ psychologically strong;
- ◆ emotionally stable;
- ◆ socially well-adjustment;
- ◆ very confident in decision making etc.

CHARACTERISTICS OF MENTALLY HEALTHY INDIVIDUALS:

Mentally healthy individuals have some specific characteristics. Such characteristics may be discussed as given below:

- Mentally healthy individuals have strong personality;
- Mentally healthy individuals are emotionally stable;
- Mentally healthy individuals have no any major adjustment problems;
- They are physically healthy people;
- They are free from mental illness;
- They have strong motivational power.

ROLE OF FAMILY IN DEVELOPMENT OF MENTAL HEALTH :

The family, as the first institution, plays an important role in the process of maintaining and promoting the mental health of individuals. Here we will describe some of the conditions within the family which may, help in preserving mental health of the child.

- Home environment should be free from all types of anxiety and tensions.
- Physiological and psychological needs of children should be fulfilled in order to avoid any feeling of frustration or tension in them.
- Relationship among the family members should be cordial
Dominant parental behaviour ie. rigid imposition of a disciplinary code should be avoided.
- Over protection should be avoided.

- Individual differences should be considered without comparing one another.
- Parents inculcate moral values as their children imitate them.
- Children should be orient to stressor and stress coping.

In short, all activities at home environment should be well planned and practical for developing proper mental health and hygiene of children to make them contributing members of the society.

ROLE OF SCHOOL FOR PROPER MENTAL HEALTH DEVELOPMENT :

Mental health has special importance for a batter-balanced society. To lead a peaceful life mental health should be sound. Without sound mental health we can not lead life in peace. Therefore, the schools should always put special importance on health education. The knowledge of health and hygiene has special importance to know the causes and the measures of get relief from the problems of mental illness.

As a social institution the school plays various roles for the proper development of academic and social life of man. Parallely for the prevention of mental illness and preservation and development of mental life and health the school plays the roles as mentioned under:

- (1) The schools helps to develop all the psycho-physical capabilities and qualities of the human child;
- (2) It helps realise the value of sound mental health;
- (3) It helps to know the problems of mental life;
- (4) It helps to develop all the qualities and capabilities of human personality;
- (5) It helps to make man emotionally strong;

- (6) The school helps to know the need of proper adjustment and its means;
- (7) It helps to realise the value of all the value to lead a peaceful life.
- (8) The school helps to develop a better balanced personality.

Activity-5.5

Do you think yourself as a mentally healthy individual? If so why? Discuss the role of school for proper mental health development.

Key Points

- Mental health very simply means the state of being mentally free from illness or injury. In other sense it means illness free or injury free mental condition of an individual.
- Mental health has the most important necessity for a better and balanced society.
- One of the basic mental problem modern men have been suffering from is the mental stress.
- The cause of mental illness may be inherited which is called as genotype and acquired in behaviour from the environment, which is called as phenotype.
- Hygiene is an art of leading healthy life. Healthy life generally means disease free physical and mental life.
- An individual who is able to adjust with different situations of life without any major problem can be defined as mentally healthy individual.
- Without sound mental health we can not lead life in peace.

QUESTIONS :

1. What do you mean by mental hygiene?
2. The term hygiene is a _____ term.
3. What does the Greek term hygiene mean?
4. \Who is Hygeia?
5. What does the term hygiene mean?
6. Who was Hippocrates?
7. Define mental health. Mention any four objectives of mental health.
8. What does mental hygiene study?
9. Give any two definitions of mental hygiene.
10. Mention any two purposes of mental hygiene.
11. What are the functions of mental hygiene?
12. Mention any three aims of mental hygiene.
13. Explain the scope of mental hygiene.
14. How does mental hygiene help us?
15. Who is a mentally healthy individual?
16. Write any three characteristics of mentally healthy individuals.
17. Explain the role of home for proper mental health development.
18. Mention any five roles school play for the prevention of mental illness.



UNIT - 7

STATISTIC AND ITS APPLICATION IN EDUCATION

CONTENT :

- **Introduction**
- **Concept of statistics**
 - Meaning of statistics
 - Definitions of statistics
 - Importance of statistics in Education and Psychology.
- **Tabulation of data-**
 - Frequency distribution table
- **Graphic representation of data**
 - Frequency polygon
 - Histogram
 - Bar diagram
 - Pie diagram
- **Measures of central tendency**
 - Mean (Grouped and ungrouped data & long and short method)
 - Median (Grouped and ungrouped data)
 - Mode (Grouped and ungrouped data)
- **Measures of variability**
 - Range
 - Quartile deviation

After reading this unit students will be able to

- (a) 1. Define and describe statistics.
- 2. State the role and function of statistics in education.
- (b) 3. Define frequency distribution.
- 4. Describe the method of tabulation of scores.
- 5. Construct frequency distribution table.
- 6. Describe the advantages of graphic presentation of data.
- 7. List the steps involved in constructing a frequency Histogram
- 8. List the steps involved in construction of a frequency Polygon and to draw it.
- 9. To draw bar diagram and pie diagram.
- (c) 10. Define central tendency.
- 11. Define or describe three measures of central tendency.
- 12. Describe the utility, merits and demerits of Mean, Median. Mode
- 13. Calculate mean by long and short method from ungrouped and grouped data.
- 14. Calculate median from ungrouped and grouped data.
- 15. Calculate mode from ungrouped data.
- (d) 16. Define variability
- 17. Define or describe range and quartile deviation as measures of variability.
- 18. Calculate range
- 19. Calculate Quartile deviation from grouped data.

INTRODUCTION :

In our day to day life we often use numbers or figures. In the morning when we get up from the bed we often say - "What is time now, or what is the price of the goods or literacy in our country is above 60% etc. The use of numbers give us some information. Even with the help of numbers the common people can also understand about many information, facts etc. The above statements are expressed as numerical statements of facts as they contain figures which are simple, precise, meaningful and suitable for communication. Analysis of such statements with figures helps us to arrive at a certain conclusion. These facts and figures of population of a place, birth, death, income etc. are known as statistics. It means a collection of facts, ie. figures relating population, national income, number of schools etc.

MEANING OF STATISTICS :

Statistics is called a science in which facts are collected in form of figures having a certain aim in mind. These facts or data are classified in such a way that an event may be properly followed. It is a science of collection, classification, presentation, analysis and interpretation of data.

W. G. Sutcliffe has defined statistics in the following way.

"Statistics Comprises the collection, tabulation, presentation and analysis of aggregate facts collected in a methodical manner without bias and relate to predetermined purpose."

The following things become necessary according to this definition.

1. Data are to be collected in a methodical manner.
2. Data are to be tabulated.
3. Data should be presented in a proper manner.
4. The facts are to be analysed and interpreted.

Statistics refers to Various methods adopted for collection, classification, analysis and interpretation of figures or data. The methods are the techniques by the help of which variable data are systematically treated so as to present a clear picture of them.

Statistics is used or applied in Psychology, in various social and sociological surveys, census, literacy status of a country; health and family planning etc. No country can plan and coordinate its development without the application of statistics.

IMPORTANCE OF STATISTICS IN EDUCATION AND PSYCHOLOGY :

Statistics plays an important role In modern age In all fields. In the field of education and psychology also statistics has occupied an important place. Many educational and psychological problems involve use of statistical methods. Statistics is, now; regarded as indispensable instrument in the field, of Education and, Psychology for researcher for systematic and meaningful record keeping. The need of statistics in education and psychology can be summarized as below

1. Statistical methods help in the construction of various tests, like achievement tests in 'various subjects, intelligence tests; aptitude tests, interest inventories, attitude tests, or scales and various

other measures of personality testing.

2. Statistical methods help us in proper and systematic presentation of the scores obtained from various educational and psychological tests and measures.
3. Determination of norms as standard comparison is essential in mental measurement. Without a standard norm comparative study of the mental abilities in terms of the individual score is not possible. Statistics as the science of probabilities can only help to draw reliable norm for such study.
4. The psychologists and educationists make their research results more interesting and meaningful by applying the statistical methods to their research data. Experimental data in educational and psychological testing must ordinarily receive appropriate statistical treatment.
5. It helps the teacher to render guidance to the students to make prediction regarding their future progress.
6. It helps the teacher to make selection, classification and promotion of the students.
7. It also helps the teachers to keep various types of records of his students as well as of the school.

DEFINITIONS OF STATISTICS :

1. W. G. Sutcliffe - "Statistics comprises collection, tabulation, presentation and analysis of aggregate facts collected in the methodical manner without bias and relates to predetermined purpose."

2. Croxton and Cowden - Statistics may be defined as the collection, presentation, analysis and interpretation of numerical data.”

Activity -1

Mention some practical situations of your life where you have to use statistics.

STATISTICAL METHODS :

There are some methods of Statistics to study and evaluate data collected from various sources –

They are-

1. Frequency distribution
2. Graphic representation
3. Measures of Central tendency
4. Measures of variability

FREQUENCY DISTRIBUTION :

A frequency distribution is the organization of the data and grouping of the scores into classes or categories. A frequency refers to the number of times a score has occurred in the test or experiment. Let it be more clear. A characteristic which can be expressed numerically is called Variable or a Variate. The number of times each variable or variate occurs is known as its frequency. A frequency table is a chart showing of the variables or variates with their respective frequencies. The manner in which the frequencies are distributed over the class intervals is called frequency

distribution. Any data collected from experiments or test are to be arranged or grouped in some systematic way for easy calculation and interpretation to them. But if the data are large then it is not easy to interpret them. To remove this difficulty, we have to tabulate large data. We can tabulate such data in the form of frequency table. The data which are tabulated in a frequency table is known as frequency distribution. We should keep in our mind that the first step of Statistical Calculation is to organise the data by preparing a frequency distribution from the variable raw scores or raw data. For this purpose, grouping of the scores in the classes is essential. For classifying or organising scores into a frequency distribution the following steps are essential-

1. Determination of Range : This refers to the gap or differences between the highest and the lowest scores. For example, in a class examination the highest mark secured by the student in English is 75 and the lowest mark secured by another student is 30. Hence the range is $75 - 30 = 45$.

2. Size of the groups or class intervals : For making a classification, the size of the grouping is to be determined. Using 3, 4, 5, 10 units in length may be taken as the size of the class interval depending upon the range. The number of class intervals may be determined by dividing the range by the grouping interval tentatively selected. For example, 55 the range divided by 5 units gives 11 class intervals with 5 as the length of each. In the above example an interval of 3 units will bring 19 class intervals.

When the size and number of class interval are decided these are written down. Generally the highest measurement is written at the top, and the lowest at the bottom.

3. Tally : A tally represents a score that lies in anyone particular class interval. One tally is given for each score opposite the corresponding class interval. The fifth tally is by the oblique line (|||) over the previous four tallies. This is given done to facilitate counting of frequencies without mistake.

4. Frequencies : Frequencies are represented in the 3rd column of the frequency distribution. When all the frequencies are added up, total number of cases of N is obtained.

5. The midpoint of an interval in a Frequency Distribution : If all the scores are represented within a given class-interval by some single value, the midpoint of the interval is the logical choice. For instance, in the interval 30-34, all 5 scores upon this interval are represented by the single value 32, the midpoint of the interval.

Formula :

$$\text{Midpoint} = \text{Beginning interval scores} + \frac{\text{upper scores} - \text{Lower 5 copes}}{2}$$

$$\text{Midpoint} =$$

$$=$$

$$= 30 + 2 = 32$$

But most commonly used method for finding out midpoint is

$$\text{Midpoint} = \frac{\text{Upper limit of the class} + \text{Lower limit of the class}}{2} .$$

The procedure involved in preparing a frequency distribution may be explained using the marks secured by 50 students in education subject out of 100 marks.

Table I. (Row or ungrouped Scores)

75	62	37	48	63	62	87	62	65	81
71	67	46	61	38	55	68	52	55	62
41	60	58	83	48	57	65	60	74	51
51	61	77	70	77	78	32	63	35	63
56	73	71	69	60	74	46	68	43	64

The above individual scores are called ungrouped data. The highest score is 87 and the lowest is 32. Range = $87 - 32 = 55$

To construct a frequency distribution table for any set of observations, we will follow the following procedure -

1. Arrange the ungrouped data either in ascending or descending order / manner.
2. Write the class interval in such a way that the lowest class-interval will be at the bottom and the highest at the top.
3. The above score are grouped into a frequency distribution table making for columns. (Table-3)

87	83	81	78	77
77	75	74	74	73
71	71	70	69	69
68	68	67	66	65
64	63	63	63	62
62	62	62	61	61
60	60	58	57	56
56	55	54	52	51
48	48	46	46	42
41	38	37	35	32

Table - 3. Frequency Distribution

Class interval	Mid Point	Tallies	Frequencies
85 - 89	87		1
80 - 84	82		2
75 - 79	77		4
70 - 74	72		6
65 - 69	67		7
60 - 64	62		12
55 - 59	57		5
50 - 54	52		3
45 - 49	47		4
40 - 44	42		2
35 - 39	37		3
30 - 34	32		1

N = 50

In the above frequency distribution table (Table-3) there are four columns. The 1st, 2nd, 3rd and 4th column contain class-intervals respectively.

In statistics, the highest level of class-interval and the lowest level of

class-interval can be determined in three (3) ways. For example –

Table - 4
(Determination of class-interval)

Class-interval	f	Class-interval	f	Class-interval	f
30 - 35	1	29.5 - 34.5	1	30 - 34	1
25 - 30	2	24.5 - 29.5	2	25 - 29	2
20 - 25	5	19.5 - 24.5	5	20 - 34	5
15 - 20	4	14.5 - 19.5	4	15 - 19	4
10 - 15	6	9.5 - 14.5	6	10 - 14	6
5 - 10	2	4.5 - 9.5	2	5 - 9	2

Among the above, the third method is clear and can be easily arranged.

Activity - 2

- ◆ Collect the marks in English obtained by the students of a particular class of your institution and prepare frequency distribution tables taking different range of class-intervals.
- ◆ Give your observations on the basis of the frequency distribution tables prepared by you.

GRAPHIC REPRESENTATION OF DATA FROM FREQUENCY DISTRIBUTION :

Graphs are visual and figurative illustrations of statistical data. Graphical presentation of statistical data gives a pictorial effect.

Frequency can be easily understandable if it is displayed with the help of the graph. Comparative study can be made with its help. It simplifies complexity of data. It save time and energy. It is understand able even to a layman.

Construction : How to construct the graph? Two straight lines are drawn cutting each other at right angles. The horizontal line ($X'X'$) is called abscissa or X-axis, the vertical line (yy') is known as ordinate or Y-axis. The point (0) at which the lines meet is known as origin (see the Fig-I)

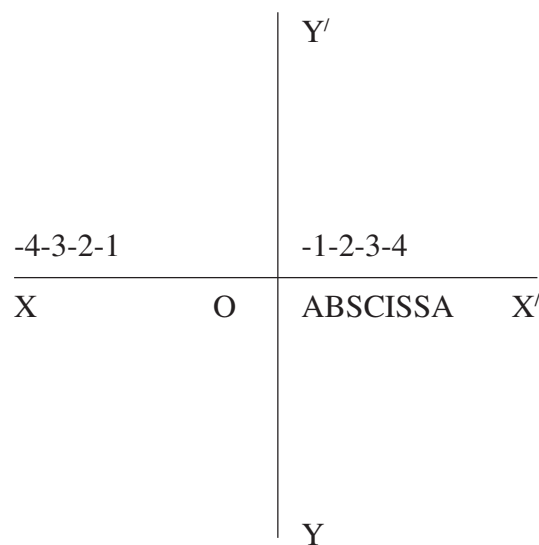


Fig. 1

Distances measured from “0” towards right or above are reckoned as positive while those measured towards the left or downward as negative.

Thus, xx' and yy' divide the plane, i.e., graph paper into four parts, known as Quadrants. All points in the plane are located by two coordinates drawn parallel to the axes. (The teacher should show the plane with a graph paper)

Important rules which we have to following in graphical presentation of data are-

- (1) Every graph must have a title.
- (2) Data representation X-axis and Y-axis should be made as clear and complete as possible.
- (3) It is desirable to put the data in a tabular for a comparing the diagram.
- (4) Scales should be clearly defined.
- (5) Horizontal scale should be read from left to right and the vertical from bottom to top from the origin.
- (6) If more than one variable is plotted on the same group, it is necessary to distinguish them.

The graphic representation of the frequency distribution can be done with the help of mainly four types of graph. They are-

1. Frequency polygon
2. Histogram
3. Cumulative Frequency Graph
4. Cumulative Percentage Curve or Ogive.

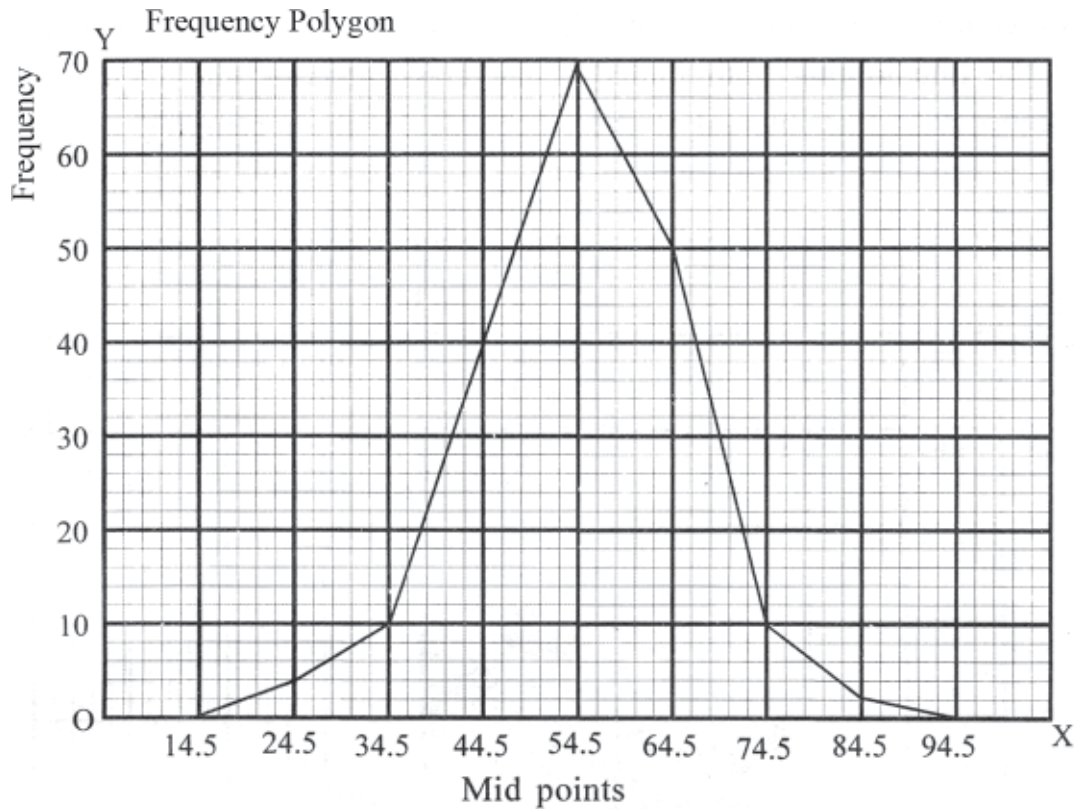
1. Frequency Polygon : To draw the frequency polygon first we take the midvalues of each class-interval on the X-axis and the corresponding frequencies are taken on Y-axis. Then if the adjacent points are joined by straight lines we get frequency polygon.

Construction of the Frequency Polygon :

- (i) The mid points (inervals) should be labelled on the base line or X-axis.
- (ii) Frequencies are put on the Y-axis.
- (iii) Plotting mid point - Frequencies on each interval are plotted above the midpoints of the intervals on the X-axis. For example a dot is put at a distance on the height of the frequency.
- (iv) When all the points have been located in the diagram, they are joined by a series of short lines to form the frequency polygon. Then a polygon is formed.
- (v) For giving symmetry and balance to the polygon, care should be taken in the selection of unit distance to represent the intervals on the X-axis and the frequencies on the Y-axis. 75% principle must be maintained while drawing Y-axis.

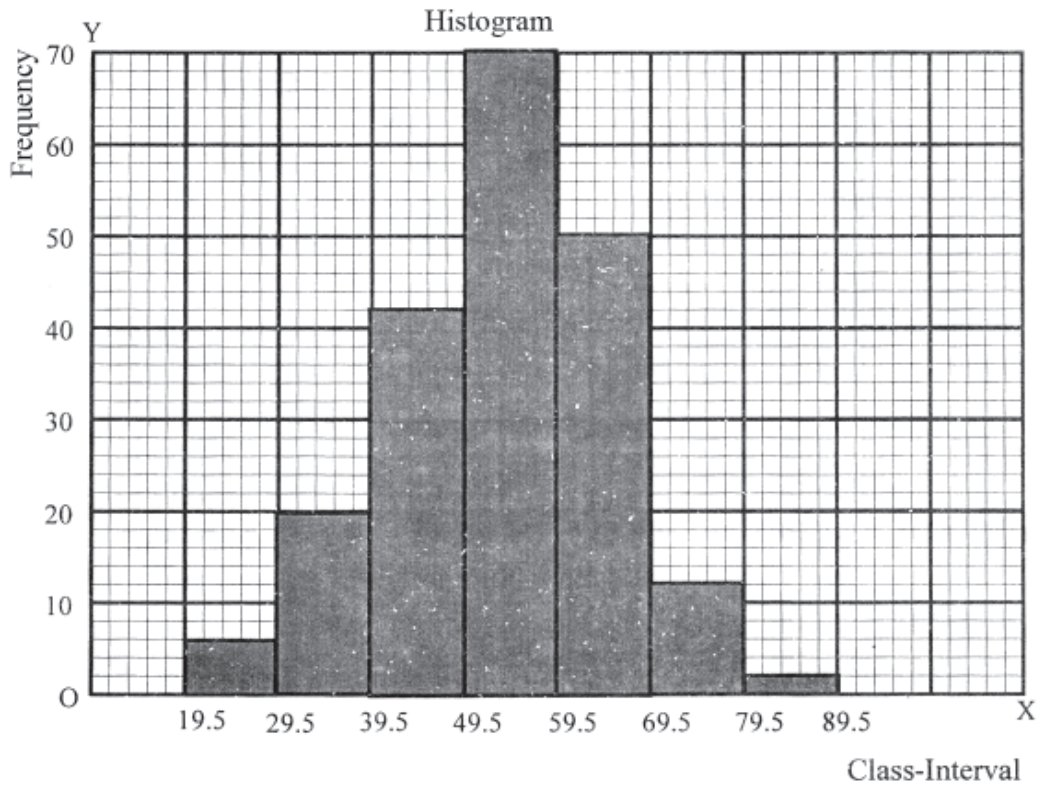
Table - 6

Class-interval	Mid Points	f
20 - 29	24.5	4
30 - 39	34.5	20
40 - 49	44.5	43
50 -59	54.5	70
60 - 69	64.5	50
70 - 79	74.5	11
80 - 89	8.5	2



2. Histogram : Another way of representing a frequency distribution graphically is by means of a histogram or column diagram. To make a difference between frequency polygon and histogram is that in the frequency polygon, all of the scores within a given interval are represented by the midpoint of that interval, but in a histogram the scores are spread uniformly over the entire interval. To draw the histogram for a given continuous frequency distribution first we take the class intervals on the X-axis in a suitable scale and on the Y-axis frequencies are shown. Each class-interval in a histogram is represented by a separate rectangle. The area of each rectangle of histogram is directly proportional to the number of measures

within the interval. We continue drawing rectangles in the similar manner taking one side at the line joining both limits of the class-intervals and taking the frequency in that interval as the other sides of the rectangles.



3. Bar diagram : The bar diagram is used psychology to compare the relative amounts of some trait possessed by two or more groups. In education, the bar graph is used to compare several different variables. A common form of bar graph is that in which length of the bars are proportional to the amounts of the variable possessed. For emphasis, spaces are often left between the bars. These bars may be drawn side by side in the vertical or horizontal directions. There are different types of bar diagram such as-

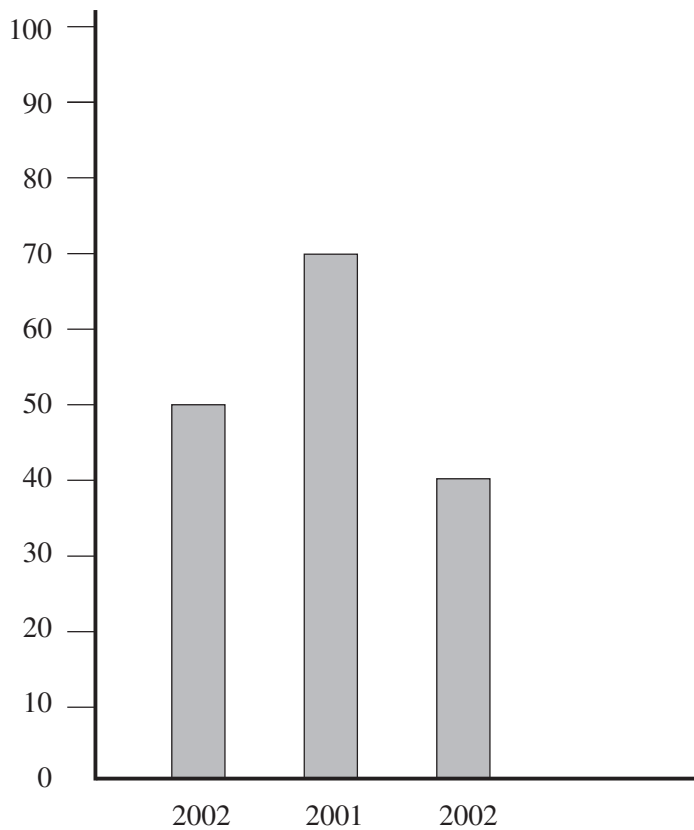
- (a) Simple Bar diagram

(b) Multiple Bar diagram

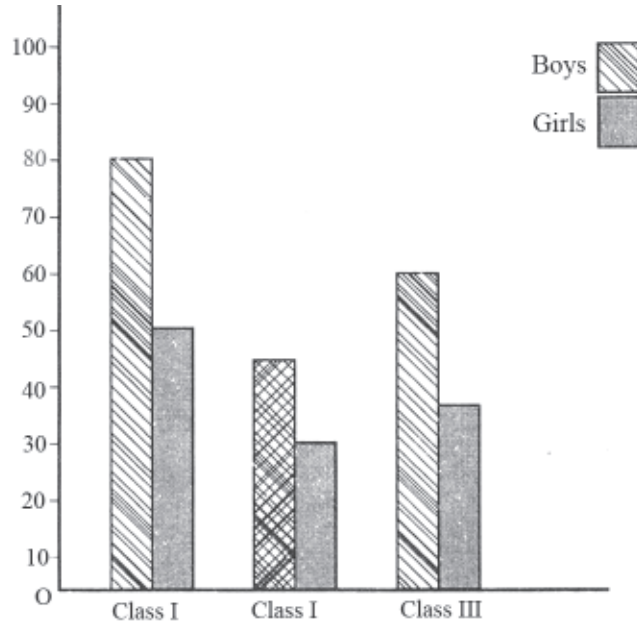
(c) Subdivided Bar diagram

(a) **Simple Bar diagram** : A simple bar diagram can be drawn either on horizontal or vertical base. It is simple to draw and easy to understand.

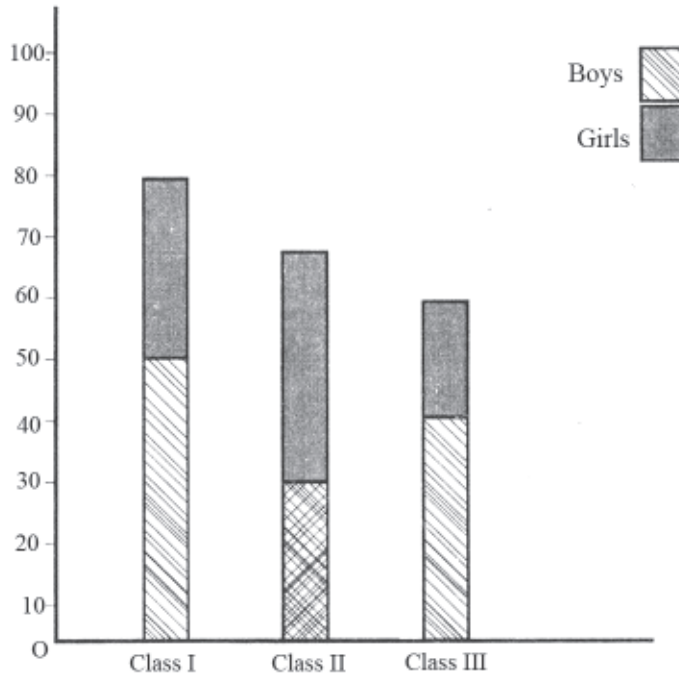
(b) **Multiple Bar diagram** : Multiple bar diagrams are to denote more than one phenomenon. Multiple bars are useful for direct comparison between two values. The bars are drawn side by side. In order to distinguish the bars, different colours, shades etc., may be used and a key index to this effect be given to understand the different bars.



(a) Simple Bar diagram



(a) Multiple Bar diagram



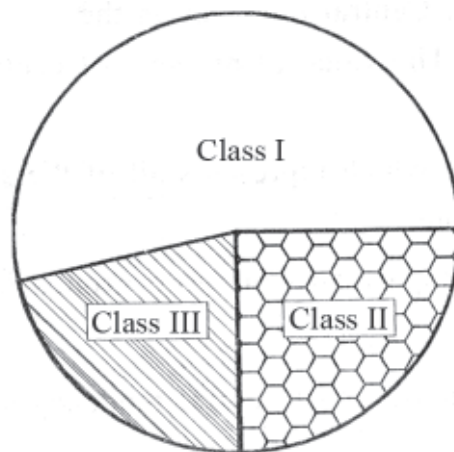
(c) Subdivided Bar diagram

(c) **Subdivided Bar diagram** : Here, the bar is subdivided into various parts in proportion to the value given in the data may be drawn on absolute figures or to its share in the total. To distinguish different components from one another, different colours or shades may be given (See 23.6.b).

4. Pie diagram : The pie diagram ranks high in understanding. Here, a circle is divided into sectors. As there are 360 degrees at the centre, proportionate sectors are cut taking the whole data equal to 360 degrees. This will be clear from the following illustration.

Calculation of pie diagram:

Class	Number of students in (%)	Degree
Class-I	60	
Class-II	25	
Class-III	15	
Total –	1000	360°



Pie Diagram

Activity - 3

- Draw a histogram and a polygon from the data collected for activity-2. on the same axis
- List the steps to draw histogram and polygon.

MEASURES OF CENTRAL TENDENCY :

Sometimes we find that in statistical data, there IS some figure near-about which other figures exist. It means that the remaining figures are near about the central figure or digit. It means that other numbers are either lower than that particular number or slightly over or more than that. This tendency of Statistical data is called Central Tendency or Tendency of centralisation. This tendency has its use in education or other Social sciences. Sometimes a student of a class want to find his position in the class in reference to ordinary and normal students. In such a situation he tries to know the central figure or average which represents a whole series. Such figures or averages are known as measures of central tendency or Averages. They are representative data. Central tendency is the point which represents the whole distribution. The value of measure of central. Tendency is of two fold-

1. It is an average which represents all of the scores made by the group as a whole.
2. It enables to compare two or more groups in terms of typical performance.

Commonly three measures of central tendency are used

- (a) Arithmetic mean
- (b) Median

(c) Mean

Mean : It is also known as Arithmetic mean. It is the ordinary average in Arithmetic. In ungrouped data, the scores are added and their sum is then divided by the number of cases involved. The formula for ungrouped data is :

Where, ΣX represents 'the sum of'

X represents the Scores

N the total number of Scores.

Example : Find the Mean of the scores of 5 (five) students in an examination of English.

The Scores are 10 8 7 6 4

Mean

7 is a representative figure, it give a central value of the series of scores. When data are grouped the Mean may be calculated by a simple formula:

Where ΣX represent the Sum of'

X represents the Mid point in each class interval.

F represents the frequency of each class-interval

N represents the total number of scores.

It is also called the long method of calculating mean.

Example : Calculate the Mean from the following grouped data :

Table : 7

Calculating of Mean from grouped Data : (Long method)

Class-interval	Midpoint	f	fx
20 - 29	24.5	4	98.0
30 - 39	34.5	20	690.00
40 - 49	44.5	43	1913.5
50 - 59	54.5	70	3815.0
60 - 69	64.5	50	3225.0
70 - 79	74.5	11	819.5
80 - 89	84.5	2	169.0

$N = 200$ 10730.0

A short method for calculating Mean is also adopted. It is called Short method. The essential fact to remember in calculating mean by the Short method is that we 'assume' a mean at the outset. Later on a correction is applied to this assumed value (A.M) to obtain the actual mean (M). The mean may be tentatively placed or assumed near the centre of the distribution

where the midpoint of an interval is taken. Mostly the midpoint of that interval near the centre of the distribution is taken which contains the largest frequency.

Example :

Table : 8
Calculation of the mean Short method

Class-interval	Midpoint	f'	x'	fx'
40 - 44	42	3	4	12
35 - 39	37	4	3	12
30 - 34	32	5	2	10
25 - 29	27	6	1	6
				40
20 - 24	22	8	0	0
15 - 19	17	3	-1	- 3
10 - 14	12	4	-2	- 8
5 - 9		7	-3	21
				- 32

$$N = 40$$

$$Fx' = 8$$

Median : Calculation of Median where data are ungrouped : The median is the' midpoint on the scale of measurement above which lie 50% of the cases, when the data are arranged in an ascending order from low to high scores.

When ungrouped scores are arranged in order of Size, the median is the midpoint in the series.

Formula : Median

$N = \text{Number of Cases}$

Example : 8 6 4 10 7 3 11

The Scores are arranged in order of Size

3, 4, 6, 7, 8, 10, 11

Median

Counting it from either end of the Series, Ie., 7.0 (Midpoint 6.5 to 7.5)

A median is the point above which there are exactly half the Scores and below are the other half. Here the total number of Scores is 7. There are three scores above and three below 7 and since a score of 7 covers the interval of 6.5 to 7.5, its midpoint is 7. This is the median.

Calculation of Median from grouped data :

Formula :

- Where L = Exact lower limit of the class interval upon which the median lies.
 $\frac{N}{2}$ = One half of the total number of Scores
 F = Sum of the Scores on all interval below
 f_m = frequency (number of scores) within the interval upon which the median falls.
 i = Length of class interval.

Example :

Calculate the Median in the following grouped frequencies :

Table - 9

Class-interval	f	cf
80 - 89	2	200
70 - 79	11	198
60 - 69	50	187
50 - 59	70	137
40 - 49	43	67
30 - 39	20	24
20 - 29	4	4

Mdn can be obtained here

$N = 200$

The mode :

The number that occurs in the list several times is called Mode. For Example, 2 3 4 4 4 6 7 7 7 8 9 9 9. The mode in this list is 4 7 and 9.

Mode is the score of greatest frequency. Mode is of two types.

(1) Crude Mode or Empirical Mode

(2) Mode or True Mode.

The Crude Mode is the Single measure or score which occurs most frequently in a simple ungrouped series of scores. For example in the series of 6, 7, 8, 8, 9, 9, 9, 9, 10, 10 the most often recurring score is 9 and 9 is the crude Mode.

But when data are grouped into frequency distribution, the Crude mode is computed by taking the midpoint of that class interval which contains the largest frequency.

True Mode is the point of great concentration in the distribution that is, the point at which more scores fall than at any other point. Ordinarily the crude mode is only approximately equal to the true mode.

Formula : Mode = $3 - 2 \text{ mean}$

Use of Mean : Mean is used –

- (1) When the scores are distributed systematically around a central point.
- (2) When measure of central tendency having the greatest stability is wanted
- (3) Many statistics are based on the means, therefore it is used when other statistics are to be computed later.
- (4) It is the most widely used measure of central tendency popularly known as the 'Average'
- (5) It is necessary to calculate mean first for calculating other statistics like standard deviation etc.

Use of Median :

- (1) Median is a measure of central tendency.
- (2) It is used when the exact Midpoint of the distribution or the 50% point is wanted.
- (3) It is used when we desire that certain scores should influence the central tendency but they should be above or below the median.

Use of Mode :

- (1) It is used when a quick and approximate measure of central tendency is wanted
- (2) It is used when the measure of central tendency is the most typical value.
- (3) The mode is of really reliable in small samples.

Activity - 4

1. Find out mean, median, mode of the marks obtained by the students of your class in English and Education in 1st unit test.
2. Compare performance of the students in the subjects on the basis of these measurers.

MEASURES OF VARIABILITY

The extent to which tend to gather round the central tendency, or the extent to which they disperse the themselves, is called their variability or deviation.

There are four methods of measuring variability or dispersion. They

1. Range
2. Quartile Deviation or Semi inter quartite range.
3. Mean Deviation or Average deviation.
4. Standard Deviation.

We shall discuss about Range and Quartile Deviation only.

Range : Already you have some idea about range while making a frequency distribution. Range is the difference between the highest and the lowest scores in a series of scores. In other words, it refers to the gap between the highest and the lowest scores. For example, in a test, the highest mark secured by the students in English is 70 and the lowest mark is 20. Hence the range is $70 - 20 = 50$. It is easy to understand and easy to calculate. When a knowledge of extreme scores or total spread is all that is

wanted or when rough and quick comparison is needed then we can use range as a measure of variability.

Quartile Deviation It is defined as half the distance between the third and the first quartiles. Quartile deviation represents the average amounts by which the third quartile (Q_3) and the first quartile (Q_1) deviate from the median. Q_1 is the 25th percentile, “the median (Mdn) is the 50th percentile and Q_3 is the 75th percentile. Q or Q.D represents the distance on the Scale that lies 25 percent above or 25 percent below the median, or one-half the distance between Q_3 and Q_1 .

Formula for Calculating Quartile Deviation –

Thus

When L = Exact lower limit of the class-interval upon which the quartile lies

F = Sum of the Scores on all interval below L

f_q = Frequency (number of scores) within the interval upon which the quartile falls.

i = Length of the class-interval.

Example :

Table - 10
Quartile Deviation (Q)

Class-interval	f	f	
90 - 94	2	60	
85 - 89	2	58	
80 - 84	4	56	
75 - 79	8	52	Q_3
70 - 77	8	44	
65 - 69	13	36	
60 - 64	9	23	Q_1
55 - 59	6	14	
50 - 54	5	8	
45 - 49	1	3	
40 - 44	2	2	

$N = 60$

The Calculation of Quartile deviation is very easy and is easily understandable. It is very near to median. When there are scattered or extreme scores and when it is desirable to rule out the influence of extreme values

and when the concentration around the median is of our primary interest then we use Quartile deviation as measure of variability.

Activity 5

- Give a specific example of your own where –
 - (i) Range is preferred to Quartile deviation (Q)
 - (ii) Quartile deviation is preferred to range.
- Find out Quartile deviation and range from the data collected for activity-2.

SUMMERY

Statistics is called a science in which facts are collected in form of figures having a certain aim in mind. These facts or data are classified in such a way that an event may be properly followed. It is a science of collection, classification, presentation, analysis and interpretation of data.

Some methods of statistics are frequency distribution, graphic representation, measures of central tendency and measures of variability.

A frequency distribution is the organizations of the data and grouping of the scores into classes. For classifying or organising scores into frequency distribution certain steps are essential. They are determination of range, size of the groups, tally, frequencies, midpoints. In statistics, the highest level of class interval and the lowest level of class interval can be determined in 3

ways. The cumulative frequency can be obtained by adding the frequency of the second class with that of previous class. The graphic representation of the frequency distribution can be done with help of mainly four types of graph. They are histogram, frequency polygon, cumulative frequency graph and ogive.

Commonly there are three measures of central tendency namely Arithmetic Mean, Median and Mode. Central tendency is that point which represents the whole of the distribution.

The extent to which cases tend to gather round the central tendency or the extent to which they disperse themselves; is called their variability or dispersion. There are four measures of Variability. They are Range, Quartile deviation, Mean deviation and Standard deviation.

QUESTIONS

1. What is statistics? Write in brief its importance in education.
2. What do you mean by Frequency Distribution.?
3. What do you mean by range?
4. What steps you will follow do construct a frequency distribution table?
5. Write the importance of graphic representation of the frequency distribution.
6. What is the difference between a histogram and a polygon.
7. Indicate the Significance of Statistics in education and psychology.

8. What are the different methods of statistics?
9. What are the steps for preparing a frequency distribution?
10. Calculate mean, median and mode from the ungrouped scores given below-
15, 10, 12, 9, 8, 4, 15, 14, 20, 18
11. Mention two differences between frequency polygon and histogram.
12. What do you understand by Range? Give example.
13. The Mean and median of a frequency distribution table is' 40 and 42., Respectively. Determine the Mode.
14. What is statistics? Write briefly the utility of statistics in education.
15. Mention different statistical methods and write about them in brief.
16. What is a frequency distribution? How a frequency distribution is prepared?
17. What is understood by Measures of central tendency? Describe the uses of Mean, Median and Mode.
18. Tabulate the following 25 Scores into frequency distribution using an interval of 3.

61	75	76	76	72
83	82	65	86	70
81	71	77	67	72
67	67	84	69	64
72	78	63	72	73

19. Describe briefly the methods of placing of the statistical data on the graph.
20. Calculate the Mean, Median and Mode for the following ungrouped data.

5, 10, 6, 9, 8, 6, 11

21. Calculate Mean, Median and Mode for the following frequency distribution use the Short Method in calculating the mean.

Class interval	f
195 - 199	1
190 - 194	2
185 - 189	4
180 - 184	5
175 - 179	8
170 - 174	10
165 - 169	6
160 - 164	4
155 - 159	4
150 - 154	2
145 - 149	3
140 - 144	1

N = 50

22. Calculate the Q for the above frequency distribution.
23. Represent the frequency distribution of Q No.8 as frequency Polygon and draw histogram on the same axis.

24. Represent the following data by means of a bar graph.

Number of Student

Year	Class-I	Class-II	Class-III
1999	65	30	60
2000	80	10	40
2001	50	45	35
2002	50	50	50
2003	30	60	70

