**INFLUENCE OF TEACHER - PUPIL RELATIONSHIP ON ACADEMIC ACHIEVEMENT IN BIOLOGY OF SECONDARY SCHOOL STUDENTS IN MALAPPURAM DISTRICT**

**RANJITHA. T.**

**Dissertation**

**Submitted to the University of Calicut**

**in partial fulfilment of the**

**requirements for the degree of**

**MASTER OF EDUCATION**

**FAROOK TRAINING COLLEGE**

**UNIVERSITY OF CALICUT**

**2005**

**D E C L A R A T I O N**

I, RANJITHA, T., do hereby declare that this dissertation, **"INFLUENCE OF TEACHER - PUPIL RELATIONSHIP ON ACADEMIC ACHIEVEMENT IN BIOLOGY OF SECONDARY SCHOOL STUDENTS IN MALAPPURAM DISTRICT"** has not been submitted by me for the award of any Degree, Diploma, Title or Recognition before.

Farook Training College,

. 07.2005. **RANJITHA. T.**

**MOHAMED ISHAQ, K.P.**

**Lecturer in Education**

**Farook Training College**

**Farook College (P.O.), Calicut.**

**C E R T I F I C A T E**

I, MOHAMED ISHAQ, K.P., do hereby certify that this dissertation, **"INFLUENCE OF TEACHER - PUPIL RELATIONSHIP ON ACADEMIC ACHIEVEMENT IN BIOLOGY OF SECONDARY SCHOOL STUDENTS IN MALAPPURAM DISTRICT"** is a record of bonafide study and research carried out by RANJITHA, T., under my supervision and guidance.

**MOHAMED ISHAQ, K.P.**

Supervising Teacher

Farook Training College, Lecturer in Education

. 07.2005. Farook Training College

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**I N T R O D U C T I O N**

Education makes a man self reliant and self sufficient. Education aims for the harmonious development of the individual potentialities, which when given the proper environment at the appropriate time will blossom to their maximum. Education is considered as the most suitable type of environment given for this sake. The educative event is an intervention in the living experience of persons and this intervention is designed to change the meaning of experience for these human beings. The whole exercise of education revolves round the process of learning and teaching. Understanding the nature of the child and environment in which the activity of education is taking place is the first requisite of teaching-learning programme. Teaching- learning process is the achievement of shared meaning. The mutual un concealment in teaching requires reciprocity of shared responsibilities. Each student is responsible for his own learning. As the student intelligently persue his responsibilities for learning, he grows in power of choice, in power of action and in flexibility of thinking and the teacher's responsibility changes of facilitation of learning.

According to "Pestalozzi" 'Education is natural harmonious and progressive development of man's innate powers'.

Gandhiji says that "By education I mean an all-round drawing out of the best in the child and man-body mind and spirit".

Education is a triangular process. It involve the inter-play of the educator, the educand and the social forces. The teacher tries to modify the personality of the child in the light of the needs of the individual and the society to which he belongs.

In ancient Indian educational system the role of teacher was very narrow and the teacher was a dominated personality in educational system. In this period all decision related to the educational process made by the teacher, and the pupil was required to serve their teacher compulsorily.

In modern educational system the teacher is an essential factor. The role of teacher is that of a friend, motivator, philosopher and a guide. According to John Deway 'Teacher provide the child scope for active participation so that he learns to create new value for future'.

The quality of a nation depends upon the quality of its citizens. The quality of citizens depends upon the quality of their education, which in turn depends largely upon the quality of their teacher. Teaching is a series of events where in the teacher attempts to bring about desirable change in the behaviour of the student. In her/her attempt towards behaviour modification, the teacher influence the teaching learning process by adopting various behavioural patterns. Teacher's classroom behaviour plays a vital role in strengthening the teacher-pupil communication and teacher-pupil relationship in the classroom. The teacher is the back bone of the educational system, the maker of mankind and architect of society.

According to Kothari Commission (1964-66). "The different factors which influence the quality of education and its contribution to national development the quality competence and character of teacher are undoubtedly significant". National Policy of Education (1989) points out that status of teacher react the socio cultural ethos of society.

Teaching simply cannot happen without teachers entering in to relation with their students. The teacher's success in facilitating learning is directly related to the quality of that relationship. Relationship are as essential to teaching as the flour of cake. The reason that we often fail to appreciate the importance of relationship is that we have inherited misconceptions about teaching, about learning and about the nature of mind. For thousands of years, people have theorised about the mind and about learning and have drawn conclusions about the nature of teaching. The earliest concepts we have of mind are of psyche, a Greek word for breath, because of the observed relationship breathing and life. Later, during the age of machines, the mind was conceived of as a complex machine and the metaphors of teaching changed activity. When students ground way at problems we could hear their gears turning, unless, of course, they were a little rusty up there. We drilled students to sharpen their minds as we would sharpen a tool. Now we are equally certain that the mind is a kind of computer and teachers task is to program it. Teaching is inherently interactive because it depends on making connection with an active growing mind.

But what does interaction have to do with relationship? The relationship between teachers and learners can be viewed as a set of fillers; interpretive screens or expectations that determine the effectiveness of interactions between the teachers and the students. Effective teachers form relationship that are trustful, open and secure, that involve a minimum of control, are co-operative and are conducted in a reciprocal, interactive manner. They share control with students and encourage interactions that are determined by mutual agreement within such relationships learners are willing to disclose their lack of understanding rather than hide it from their teachers; learners are more attentive, ask more questions and are more actively engaged. That will help to develop independent thinking and self expression. Thus, better the relationship, better the interaction and better will be the learning .

There is considerable evidence that students of different achievement level have very different kind of interaction with their teachers. Hoehn (1954) found that high achieving students enjoyed more promotive and supportive contract from their teacher, while low achievers had a greater proportion of teachers contact involving conflict with the teacher or-domination and direction by the teacher. De Groat and Thompson (1949) found that high achievers received more praise, while lower achievers received a disproportionate share of disapproval.

**NEED AND SIGNIFICANCE**

Education is one of the field affecting the physical and mental growth of the individual. The rapid change in the life demands the rapid change in the education. Educational objectives are no longer, limited to 3R's-Reading writing and Arithmetic. They encompass self direction skills, positive self concepts, thinking skills, social skills, attitudinal changes and so on.

A teacher help the student in discovering new approaches and is exited about the potential development in his field. It is agreed by every one that the quality of education depends on the quality of teachers and their relationship with students. Improvement in educational standards depends mainly an effective teacher-pupil relationship, which again depends on both the teacher and students behaviour. A good relationship among the teacher and the students is an important factor leading to effective teaching and learning.

According to researchers, Daly and Suite (1981-82) teachers judge childrens seated in the front of the classroom more positively than those in the back. Teachers who were more anxious about communicating with their students, were more likely to differentiate among students on the basis of the seat they had in the class.

One can say that teaching and learning in something more than the efficient delivery and receiving of thoroughly prepared lecture. 'Teaching is basically an interpersonal relationship, which with its proper techniques and devices helps to reduce or control anxiety and promote learning' – Claims Stavsky. Thus a good relationship among the teacher and the students is an important factor leading to effective teaching and learning.

Democracy demands conidial and democratic relationship in the classroom by the student and teacher and make the classroom living experience of democratic setup. Therefore the study of teacher and his/her relationship with student is of almost important.

**STATEMENT OF THE PROBLEM**

The problem of the study is entitled as "INFLUENCE OF TEACHER-PUPIL RELATIONSHIP ON ACADEMIC ACHIEVEMENT IN BIOLOGY OF SECONDARY SCHOOL STUDENTS IN MALAPPURAM DISTRICT".

**DEFINITION OF KEY TERMS**

**Teacher-Pupil Relationship**

Teacher-pupil relationship refers to the extent of all educational and personal relationship that exist between the teacher and pupil, where the teacher motivate the pupils in educational matters and infers in all their personal problems.

**Biology Achievement**

Biology achievement refers to tangible accomplishment or proficiency of performance in biology as measured using a standardised test. In the present study Biology achievement is the mark obtained by the students in the biology achievement test conducted by the investigator.

**Secondary School Students**

In this study 9th standard students are taken as secondary school students.

**VARIABLES OF THE STUDY**

**Dependent Variable**

Achievement in Biology has been selected as the dependent variable.

**Independent Variable**

Teacher-Pupil relationship has been selected as the independent variable.

**OBJECTIVES OF THE STUDY**

I. To find out the influence of Teacher-Pupil Relationship on Academic Achievement in Biology of Secondary School Students.

II. To find out the relationship between Teacher-Pupil Relationship and Academic Achievement in Biology of Secondary School Students. Based on following variables.

(1) Levels of Achievement

(2) Gender of Teacher

(3) Gender of Students

(4) Locale of the School

(5) Types of Management of School

(6) Type of School.

**HYPOTHESES OF THE STUDY**

I**.** There exist significant relation between teacher-pupil relationship and academic achievement in biology.

II. There exist significant differences in relationship between teacher-pupil relationship and academic achievement in biology for the relevant subsample based on,

1. Levels of Achievement

2. Gender of Teachers

3. Gender of Students

4. Locales of the School

5. Types of management of school

6. Types of School.

**METHODOLOGY**

**Sample**

**Population of the study**

The largest population for the study is the secondary school pupils. However the accessible population was the student of standard IX.

**Size of the sample**

A good sample must be as nearly representative of the entire population as possible. A sample of 500 is considered by Krech and Cruchfield (1968) as a optimum size in descriptive studies which would give reasonable results and would keep the error with in the limit of five percent level.

The sample for the present study was fixed to be about 800 assuming that the strength of pupils in each class division in standard IX will approximately be 40 and their respective biology teachers.

**Tools**

Teacher-Pupil relationship scale: (Pupil Version, Teacher Version)

Achievement test in Biology

**Statistical Techniques**

1. Pearson's Product Moment Coefficient of Correlation ('r')

2. Test of significance of difference Between mean for different categories ('t' test)

**SCOPE AND LIMITATION OF STUDY**

In the learning process of the students the teachers have an unavoidable and main role. So the creation of a good or a positive relationship between teachers and the students are very essential. The sincere, good interrelationship between the teachers and pupils are make an intimacy towards the teachers among the students. This intimacy also promote (an intimacy) towards the subject among students. The likes towards the subject increase the interest in the subject. As a result of these the whole academic achievement is improved. So, the investigator understood that the teacher-pupil relationship and the academic achievement is very closely interrelated. And she think that it is one of the good area for the conduct of a research study.

This study has been undertaken with the main objective to find the nature and extent of influence of Teacher-Pupil Relationship on Academic Achievement in Biology of secondary school students of Kerala. The study is conducted on a representative stratified sample of 800 pupils of standard IX belonging to 15 schools of Malappuram district. In setting the sample, the representation was given to factor like Level of achievement, Gender, Locale, Type of Management and Type of School.

The selection of variable 'Teacher-Pupil Relationship' was on the basis of the possible relation of the variable with 'Academic Achievement in Biology'.

Even though so much precautions were taken to make the study as accurate as possible, these are certain limitation also some of these are listed below.

1. Even though the study is aimed for secondary school students, due to practical reasons the investigator has considered standard IX students are the accessible population and hence as representative sample was selected from standard IX students only.

2. Study was conducted on a sample selected from the student of standard of IX of Malappuram district. However more generalisable results could have been obtained from the study, if stratified sample selected from the whole state was used.

3. Even though, Academic Achievement in Biology is affected by several other factors but only Teacher-Pupil Relationship are the variable taken for study.

4. No attempt was made to control the effect of other variable on Achievement in Biology.

5. The study was limited to Biology only.

6. Intention of the investigation was to study the influence of Teacher-pupil relationship on Academic Achievement. Due to practical feasibility it was limited to Biology Achievement.

**ORGANIZATION OF THE REPORT**

**Chapter - I** Present a brief introduction of the problem, need and significance of the study, statement of the problem, definition of the key terms, hypotheses and objectives, methodology, scope and limitation of the study.

**Chapter - II** Present the conceptual overview and summary of the related literature.

**Chapter - III** Present the methodology of the study describing in detail, the tool used, preparation of tool, selection of the sample, data collection, scoring procedure and statistical techniques used for analysis.

**Chapter - IV** Present details of the statistical analysis of data and discussion of results.

**Chapter - V** Present the summary of the study, major findings, Tenability of hypotheses, educational implications of the study suggestion for improvement of better teacher pupil relationship and suggestions for further research.

**REVIEW OF RELATED LITERATURE**

A review of related literature is essential for successful completion of research. The researcher must try to become familiar with his problem by going through related literature. Review help the research worker to gather up to date information about what has been done in the particular area from which he intents to take up a problem of research.

Review of related literature avoids duplication of work that has already been done and it helps the investigator to go deep in to the problem at hand and it help to study the different side of the problem. Best and Khan (1992) notes "since effective research is based upon past knowledge the steps help to eliminate the duplication of what has been done and provides useful hypothesis and helpful suggestion for significant investigation". This help to sharpen and widen understanding of existing knowledge in the problem area and provide a back ground for the research project.

The present study is an attempt to find out the influence of Teacher-pupil Relationship on Academic Achievement in Biology. In this section previous research study related to present study and the studies related to the different components of the dependent variable of the study are abstracted and significant writing of authorities in the area under the study are reviewed. The review has been presented under the following heads viz;

Conceptual framework of Teacher -Pupil Relationship.

Studies related to Teacher-Pupil Relation and Achievement.

**CONCEPTUAL FRAME WORK**

Theoretical overview and the conceptual frame work helped the investigator to get a clear idea about the variable and to formulate the conceptual frame work of study. There are several conceptual frame work related with Teacher - Pupil relationship and its components. The investigator gone through them and found two of them are most relevant. The details of them are given below.

1. Rana *et. al* (2004) identified the factors affecting student - Teacher Relationship are the institutional factors and the personal factors.

**(a) Institutional factors:**

**Communication Strategy**

While discussing teacher-student relationship, the terms communications and interaction have often occurred; they are of key importance in the teacher-students relationship. Hence, it is important to understand these terms. The communication comes from the Latin 'Communis', common. When we communicate, we are trying to establish a commonness with someone.

The aim and outcome of communication is the resolution of uncertainty. The teacher helps the students clarify their doubts. "The purpose of communication is to transfer the mental images from the mind of one person to that of another.

The classroom, which works as a unit of communication and interaction between-teacher and student can be said to play an important role in education. Classroom interaction is the process of verbal interchange between the teacher and the student and also amongst the students themselves. It is the process through which teaching-learning takes place. Effective teaching is said to occur when the classroom interaction potential is high. Communication in classroom is a process which involves the transmission and accurate replication of ideas Communication which effects students with the result that information is ultimately reflected in the behaviour of the students. This we call effective teaching. Communication must be dynamic, if it is to be effective. If the teacher knows the environment, content, learning objectives, method and need of students, effect of teaching and communication skill, he will be an effective teacher.

Communication is the two-way process and two-way street. Communication in the classroom and the kind of behaviour exhibited by a class are related. Classroom teaching which involve communication between teacher and student is a two way process. This reduces tension and frustration. In one way communication, students are not permitted to communicate back in any way. There is no scope for feedback. Such restriction of communication may have strong effects on students behaviour. It is likely to result in hostility and if may create problems in classroom discipline and management problems in the classroom. It may result in tension, frustration and problem behaviour.

Interaction may be verbal or non verbal Although, we usually think of it as a verbal process, it need not be. The loving caress a father gives to his small son, and the smile he receives in exchange, is an eloquent example of what we mean by interaction, with never a word uttered. Interactions may be mixed partly verbal, partly non-verbal.

**Teachers Expectations**

The study indicate that expectancies for student performance can be affected by a range of student characteristics including students race, attractiveness, socio-economic status, classroom conduct, previous academic record, etc.

Barakett found that teacher's theories of students instruction are to a large part based on teacher's experiences with students in their classroom with respect to the type of activities and task that the teacher develop and use with these students.

**Group Assignment**

A second aspect of the social context within which academic assignments are completed is whether and how pupils think about their work being shared with each other in ways that prompt further learning. Developments in theories of learning and instruction have called in to question the reliance of individual and private work, and highlighted the importance of public expression of ideas to which others can respond. Glaser (1991), emphasized ways that public expression of thinking could contribute to pupil's self-regulatory skills in a way that individual work cannot.

**Seating Arrangement in Classroom**

Where a student sit in a classroom affects his or her experience in the classroom. Seating location results in more or less teacher's attention and interactions, thus, resulting in either positive or negative effect. Students in some seats are more likely to pay attention to the teacher and to class assignments, and in turn receive higher grade.

According to researchers Daly and Suite (1981-82) teacher judge children seated in the front of the classroom more positively than those in the back. Teachers who were more anxious about communicating with their students were more likely to differentiate among students on the basis of the seat they had in the class.

**Teacher Led Instruction**

Primary modes of communication are lecture, Question-answer session, recitation and discussion. Teacher-led instruction can take place with the class as a whole or in small group within the class. Students can be assigned to a teacher-led instructional group on any basis, though typically, homogenous groups are formed within the classroom.

**(b) Personal Factors**

**Personality**

The personality of the student has a very important role to play informing a good teacher student relationship. There are two type of student personalities, the extroverts and introverts.

Extroverts are sometimes liked and some times dislinked by teachers. Introverts are those who put efforts in their work, but do not express themselves in front of teachers. Therefore the teacher cannot make out or judge their efforts.

**Academic Achievement**

Academic achievement is the level to which a student performs in any evaluation given by the teacher in school. According to the performance, these achievers are divided into high achievers and low achievers. Students who are good in all the performances in almost all the subjects are known as high achievers.

**Personal Behaviour**

The personal behaviour of students and teacher plays a vital and important role in building a relationship between students and teachers. The teacher does not only expect good behaviour from his or her students but he or she feels each student should behave in an appreciable way which would definitely create strong links between students and teachers. Students who showed good behaviour enjoyed a good relationship with teachers, irrespective of the fact whether they were insider or outside.

**Frequency of Interaction**

The more students interact with teachers, the more they will know about each other. Interaction helps not only in giving information about the problem, but It also ensures corrective measures in solving them. Therefore, interaction paves the way for quality development of the student.

1. Jamod, A.U (2002) listed the Factors to be related to teacher pupil relationship

**Ego**

Ego is the main factor which always obstruct the relation between the teacher and the student. So both the sides have to adjust. Teachers should give up the ego to that extent and remember that not to remove the ego completely means a status gap between the teacher and the student. The work of the teacher is not merely to spread knowledge but also to spread moral ethics among the students for better life, to be achieved only by having healthy relation with the students.

**Communication Language**

The main role played by the communication language, as this is a main pillar, your conversational language with the student should be so that there should be fear as well faith of the students in you. Teachers, have to think twice before they speak, so better to converse in such a way that you should not step down from the status of a teacher but you have to play dual role appearing alternatively, this is, of a good teacher and a good friend. Teacher's have to take into account the proper vocabulary to use because the way they are going to speak in front of student is easily absorbed by the student. So, better than standard of your communication language, better will be the response from students. As for the student, the main thin in the communication is to use proper and respectful words, use formal language for proper response from the teacher's side.

**Effective Leader**

Teacher should be an effective leader. The teacher should be able to handle the conflicts if any, between students and between the management and the students. A teacher should have the quality of an effective leader to bring about necessary positive changes in individuals or group of individuals, according to law of physics which states that the body in a motion continues to move in the same direction until same force acts upon it. The same laws applies to human behaviour-unless there is a capable leader to over come the natural human inertia, the desired result could not be achieved. He has to earn the respect, which he deserves by the quality of decision taken, and his/her demonstration of those homely virtues of character and integrity.

**Problem Solver**

The teacher should be a good listener, be capable of sympathetic understanding and should try to see other's view point. Teacher should think about the problems brought by the students.

**Manners and Etiquettes**

Students should take care not to be informal with teacher, as manners and etiquettes being supportive pillars of student-teacher-relation. Students should show that they really respect the teacher. The students in professionals streams need to abide by the formal standards of living.

After going through all of the dimensions and lists the investigator to formulate the conceptual frame-work of Teacher-Pupil relationship. It include the components of Teacher-Pupil Relationship such as .

**\*** Communication

\* Group assignment

\* Classroom arrangement and management

\* Classroom environment and Activity

\* Reinforcement and motivation

\* Punishment

\* Co-operation

\* Social relation

\* Freedom and discipline

\* Teacher led Instruction

\* Guidance and Counselling

\* Teacher Expectation

\* Teacher Behaviour.

**Communication**

Communication is basic to all human performance and interactions. It refers to the transmission of thought, information and commands, by employing the sensory channel. Education with it correlated a activity of teaching and learning involve communication between the teacher and pupils as channel of realising the objectives. The word communication is interpreted in a number of ways. The well accepted definition are as follows.

'Communication means sharing of ideas and feeling in a mode of mutuality'.

Communication is a dynamic process by which man consciously or unconsciously affects the cognition of another.

A teacher open up unknown or only half suspected area of skill or knowledge; he makes things clear; he makes things as simple as possible. He enables pupils to do more things and to do them better, to understand more things and to understand them better - (Marland, 1993 p.11)

**Group Assignment**

It is one of the main aspect of learning process. It provide enough chance for the self learning, and the teacher provide suitable guide line for reducing the task. This help to make a chance to boost up the interrelation of teacher and pupils and it also help to increase the self confidence in pupils.

**Classroom Arrangement and Management**

The proper arrangement and regular management of classroom will initiate the teaching learning process. It is the availability of adequate equipments, materials, books, seating arrangement, lighting etc:

**Classroom environment and Activity**

It is the psychological and inter personal atmosphere that exist in a classroom other educational setting, primarily influenced by teachers attitude and behaviour. The varieties of class room activity related to the subjects or topics make more interest in the pupil and it also accelerate the teaching learning process and teacher-pupils relationship.

**Reinforcement and Motivation**

Childrens can be motivated by using appropriate reinforcement in teaching method. Reinforcement increases the probability of desirable responses and also decreases the probability of undesirable responses.

Motivation occupies a central position in the teaching-learning process. According to Guilford "A motive is a particular internal factor or condition that tends to initiate and to sustain activity. Thus motivation includes all those internal conditions which help to begins an activity and pursue it with vigour.

Motivation arouses, sustains, directs and determines the intensity of learning efforts. Learning becomes effective and pleasant only when children are motivated. In the absence of motivation there will be either no learning or very little learning and the learned activity shall be forgotten very soon. On the other hand, sufficient motivation will release energy for the continuation of the process of learning. It is due to motive that the student goes on studying attentively. Motivation is at the heart of learning.

**Punishment**

It involve presentation of an unpleasant experience. The effect of punishment is uncertain. Punishment normally do not strengthen behaviour; it aim at reducing behaviour by imposing unwelcome after effect. Punishment is also likely to produce undesirable emotional effects, and when the aversive stimulus is removed, the punished behaviour may reappear.

**Co: Operation**

Extend to which students are encouraged to co-operate rather than be passive listener.

The teacher create proper situation for co-operative teaching and learning. The teacher sets the climate, the tone, the environment, the conditions the path through which the learner most walk.

**Social Relationship**

Good social relations of a teacher is act as a main factor to make an impression in the pupils towards them. This help to develop a better intimacy in between the teacher and pupil. The result of this intimacy reflects on the learning of student.

**Freedom and discipline**

Freedom, it is difficult for self-esteem to grow in an environment where there is little or no freedom of choice. If the student is to grow and develop as an adequate human being, he needs the opportunity to make meaningful decision for himself. Carlton and Moore (1966-68) have show that the freedom of self directed dramatization improved the reading ability and enhanced the self concept of elementary school youngsters.

Discipline is adjustment to objectivity. It is required to enable the child to adjust to his environment. Discipline is not a withdrawal. The student should remain in close touch with the harsh realities of life.

**Teacher Led Instruction**

The session like teacher led instruction is an essential mode of teaching learning process. This session include, question answer session, recitation discussion etc. This session help the teacher to understand how much the pupil learned and how much the teacher succeeded in their duty. The question answer section make more curiosity among the pupil, so they were learned carefully.

**Guidance and Counseling**

In the present century the teacher have play many role in the educational field like guide, counselor, friend philosopher etc.

In the role of a guide and a counselor the teacher try to understand the needs and difficulties of the pupils, and the teacher suggest proper and suitable solutions. The teacher also help the pupil to attain their goals.

**Teacher expectation**

According to Brophy J.E and Good, "Teacher expectations" we mean inferences that teachers make about the present and future academic achievement and general classroom behaviour of their students.

Teacher expectations regarding students are simply a special case of the more general phenomenon that use all make observation and inferences about people on the basis of what we hear about them and what we see of them in every day interaction with them.

**THEORY RELATED TO TEACHER BEHAVIOUR AND QUALITIES**

The theoretical frame work of the study will help the researcher to understand the general nature of the qualities required for a good teacher.

The term teacher effectiveness or teacher behaviour is very ambiguous and it is difficult to define. It is a relative term and consists of two words teacher and effectiveness or teacher and behaviour. Teacher means a person who has teaching skills and possess certain professional qualities of teaching. The word teacher refers to a person who is truthful, energetic, affectionate, co-operative, humble, efficient, and resourceful. The term effectiveness refers to some criteria the effectiveness of teacher can be ascertained by 3 criteria suggested by DG Ryans (1962) are

1. Presage criterion of teacher effectiveness involve the personal qualities of teacher such as cognitive abilities, intelligence, aptitude, educational and vocational abilities, non-cognitive abilities - personality values, interest, morales, attitude etc:

2. Process criterion of teacher effectiveness include the practical teaching abilities and skills. It concerns with teaching activities and teaching skills or teacher behaviour. The feed back devices can be used for improving the process aspect of teacher effectiveness.

3. Product criterion of teacher effectiveness is a result of teaching in terms of student achievement and attitude. This is dependent criteria on presage and process criteria but teaching effectiveness is usually evaluated in terms of students performance.

**Characteristics of Good and Poor Teacher**

Hamacheck (1969) concluded: Effective teachers appear to be those who are, shall we say, "human" in the fullest sense of the word. They have a sense of humour, are fair empathetic, more democratic than autocratic and apparently are more able to relate easily and naturally to students on either a one-to-one or group basis. Their classrooms seems to reflect miniature enterprise operations in the sense that they are more open, spontaneous, and adaptable to change. Ineffective teachers apparently lack a sense of humor, grow impatient easily, use cutting, ego reducing comments in class, are less well-integrated, are inclined to be somewhat authoritarian, and are generally less sensitive to the needs of their students.

**Classification of Effective Teacher-Traits**

A.S. Barr (1958) have organized a list of fifteen qualities with the component of, or synonymous for each they are-

|  |  |  |
| --- | --- | --- |
| **.** Bouyancy | : | Talkativeness, sense of humor pleasantness, carefulness, alertness etc: |
| **.** Considerateness | : | Concern for the feelings and well being of others, sympathy, understanding, unselfishness, patience, helpfulness |
| **.** Co:operativeness | : | Friend lines, easygoingness, geniality, generousness, adaptability, flexibility responsiveness, charitable |
| **.** Emotional Stability | : | Realism in facing life's problems freedom from emotional upsets constancy, poise, self control |
| **.**  Ethicalness | : | Good taste, moderty, morality, reinforcement, cultural polish, conventionality |
| **.** Expressiveness | : | Skill in expression, verbal fluency communication competency, literateness |
| **.** Force-fullness | : | Dominance, Independence, self sufficiency, determination, purposefulness, persuasiveness |
| **.** Intelligence | : | Mental alertness, academic aptitude, capacity for abstract thinking power to comprehend relationships |
| **.** Judgement | : | Wisdom is in the selection of appropriate courses of action discretion in dealing with others foresight, common sense clear-headen |
| **.** Personal Appearance | : | Dress, physique, Neatness, clearness, posture, personal charm, appear |
| **.** Objectivity | : | Fairness, impartiality, open-mindedness, free from prejudice, sense of evidence. |
| **.** Physical energy | : | Readiness for effective action, force vigour, energy eagerness to succeed, ambition, motivation, vitality endurance. |
| **.**  Reliability | : | Accuracy, dependability, honesty punctuality, responsibility, painstaking, trust worthiness, sincerity, consciousness. |
| . Scholastic Proficiency | : | High scholastic aptitude high scholastic grade point average, through knowledge of subject matter, well informed on many subjects, high verbal aptitude, widely read. |

From the research studies conducted by combs *et. al*  (1974), it appears that good teacher distinguish themselves from poor ones with respect to the following beliefs about people.

1. The good teacher perceives others as having the capacities to deal with their problems successfully

2. The good teacher sees others as being friendly and enhancing.

3. The good teacher tends to see other people as being worthy rather than unworthy.

4. The good teacher sees people and their behaviour as essentially developing from within rather than the product of external events to be molded and manipulated; he sees people as creative and dynamic rather than passive or inert.

5. The good teacher sees people as essentially trustworthy and dependable in the sense of behaving in a lawful ways.

6. The good teacher sees people as being potentially fulfilling and enhancing to self rather than impending or threatening.

**Review Related to Teacher Pupil Relationship and its components**

Hadley (1954) investigated the relationship between grades and measured achievement in twenty classroom and concluded that the teachers graded the students they liked higher, and the students that they dislike lower, than their measured achievement would dictate.

Hoehn (1954) observed nineteen middle class female third-grade teachers interacting with their students during five hours of typical every day interaction. There were no quantitative differences. Lower class students received more dominate contact from the teachers. While their middle class peers received more supportive and interactive contacts.

Wartzen (1962) Spaulding (1963). found that teachers are more likely to use a harsh or angry tone when criticizing boys, while criticism directed towards girls is usually delivered in a more conversational tone.

Yamamoto (1963) found some evidence in support of matching divergent students with divergent teachers and convergent student with convergent teachers to aim for higher achievement and improved teacher student relationship.

Pillai (1966) carried out a study on teacher qualities related by pupils in secondary schools of Kerala. The major findings is that teacher must make his lesson interesting, impartial, kind, able to maintain discipline and motivate the learner.

Jackson and Lehaderns (1967) one behavioural finding that has emerged repeatedly is that boys get much more teacher disapproval and criticism them girls.

Jackson and his colleagues (1968) have shown that some students interact very frequently with their teachers, while other students rarely do, and that some students are objects of their teacher's affection and interest, while others provoke mere in difference or even hostility.

Rowe (1969) found that teachers waited significantly longer for higher achieving students than for lower achieving students before giving the answer or calling on another student.

Silberman (1969) studied the interaction of ten third grade teachers with students toward whom they held attitudes of attachment, concern, indifference or rejection. Students about whom the teachers were indifferent received less teachers contact and less positive evaluation, while students about whom teachers were concerned received more teacher contact then their classmate.

Good (1970) found that first-grade students whom teachers perceived as high achievers received more questions and praise from their teachers than did students perceived as low achievers.

Brophy and Good (1970) showed that the highest achieving students tends to be seated closest to the teacher, while the lowest achievers tended to be seated the farthest away. Thus, in the early grades at least, where teachers typically assign permanent seats to students, seating pattern probably do not causally affect teacher-child interaction in any direct way.

Good (1970) found that first grade students whom teachers perceived as high achievers received more response opportunities and more positive feed back than classmates perceived as low achievers. He observed each of four class rooms for ten hours, noting each teachers interactions with four high achievers, four average achievers, and four low achievers. In each class room the 4 achievers received many more opportunities to respond to questions than aid the four low achievers.

Power (1971) studied the interaction of four Australian high school science teacher sand concluded that 92 percent of teacher interaction were with individual students! These figures may not be representative of teacher behaviour in elementary classroom where children spend most time in reading groups and where teachers sometimes direct questions to groups.

Thakur (1976) conducted a study out who is a good teacher based on opinion of senior pupil. The main purpose of study was to analyse the characteristics of a good teacher as perceived by pupils. Out standing positive traits of teacher as viewed by the pupil were good teaching, kind and pleasing manners, good advice and guidance to pupil regular and punctual attendance and equal treatment to all. The negative trails were partially favouritism, wasting time, lack of affection etc:

Arora (1976) conducted a study to find out character of differentiating effective and ineffective teacher and found that groups of effective, and ineffective teachers differed on the attributes of teaching, teacher-pupil relationship, discipline and punishment, teaching aids, homework and curriculum.

. Paranijpe, *et. al* (1976) A teacher has to help in the transmitting of higher values to his pupils, trough his personality and through the good of culture which are his instruments.

If he himself does not know them, has not experienced them, has never once heard their persistent cell for realization how can he transmit or enkindle them? A good teacher has besides this to be a character of the social type. The essence of his work is the attempt to get values realized in other young persons as a result of sympathy for and understanding of the needs and gifts of these persons. The true teacher yearns to lead his pupils on to the inner moral freedom which should enable them to work for the moral improvement of the ever incomplete society to which they had he belong, and to work. this end which a good democratic society should always concede Dr. Zakir Hussain.

Naik *et.al* (1976). "Let me tell you the boys do not care for what you teach them but they care for the example you set. It is not merely the instruction which you impart to them in the classroom but the kind of life you lead. You think that they do not see it but they have eyes to see and ears to hear. They know every thing about their teachers and if they have no respect for the teachers it is because they know more than they ought to know, more than what you expect them to know. There fore, it is education, it is instruction, it is knowledge and it is also example which the teachers give" - Dr. Sarveapalli Radhakrishnan.

Brown and Ric (1977) carried out a study on relationship between students evaluation of teaching, students achievement, and students perception of teacher effectiveness which indicates that a positive relationship is there between achievement and teacher effectiveness.

Debey (1979) undertook a study to know the relationship between pupil characteristics and class room behaviour of teachers, and found that

\* Class room verbal behaviour of teachers had no positive relation with pupil characteristics.

\* Class room verbal behaviour of teacher had no positive relation with respect to the attitude of pupil.

Sinha, (1980). Conducted a sample of seventy-two matched pairs of trained and untrained teachers. The main objective of the study were to find out the impact of teacher education programme on teachers competence to perform non teaching roles, such as maintaining good interpersonal relationship with students, colleagues and principal, doing office works giving guidance to students, participating in the activities of association, committees and community life and participating in co-curricular activities. He found that there was no significant difference between two categories of teachers in their attitude towards the teaching profession and teacher-pupil relationship.

Bano, (1981) conducted a study on a respective sample of 683 students studying in two public and four non public institutions. Two rating scales developed by Ryans of the American council of education served as measures of the characteristics of students and teachers and their linking for each other. Kolmogorov - Snirnov two sample test was employed to measure teacher pupil relationship.

The major findings of the study.

\* The students of non-public coeducational and single sex institutions had more favourable attitudes towards their teachers than their counterparts in public school.

\* The teacher of public school help more favourable attitude towards individual characteristics possessed by their students than the teachers of non-pupil co-educational school.

\* The teacher of non-public school more favourably endorsed their students knowledge, academic careers and social adjustment with adults than their counterparts in public school.

\* There was no significant difference between the attitude of public school and single sex non public school teachers towards the individual characteristic possessed by their students.

\* The public school teachers more favourably endorsed their students conducts and social adjustment with peers than their counterparts in non public schools.

Varshneya, (1981). Found that open school environment produced very favourable attitude towards the teacher, where as the familiar environment produced the least favourable attitude towards the teacher. Different organizational environments did not produce significant difference in the pupils' attitude towards their school but they produced significant difference in the pupils scholastic achievement.

Thapliyal, (1981). The sample consisted of the first and every fourth intermediate college taken from the list prepared on the basis of sex, location, and mode of administration. In all 450 students of class XII and 85 teachers were chosen randomly for the purpose of this study.

Findings: In boys colleges, a clear evidence of association was witness between the dimensions - adaptability, truthfulness, status of teacher-pupil interaction and classroom climate. The girls college witnessed clear association in case of fairness, adaptability and emotional relationship. Emotional warmth, status and emotional relationship were found associated in the co-educational colleges.

Wright and Cowen (1982) conducted a study with a sample of 511 grade five and six students and their 23 teachers in USA and found that teacher perceived involvement, affiliation rule clarity and order and organisation were related to more positive mood and there by greater achievement.

Voella *et.al* (1982) in his study examined the relationship between students and instructors views on perception of effectiveness of the instructor as a teacher. No significant correlation was found between students and instructor's view of the promotion of feed back given to students and students view of instructor's effectiveness.

Mishra, (1982). The sample consisted of 109 science teachers teaching class IX, both male (93) and female (16), drawn from urban boys, urban girls, rural girls, and rural co-educational higher secondary schools on the basis of the stratified random sampling technique. He found that an inverse relation ship between the performance discrepancy of science teachers and achievement of science students was identified.

Singh, (1985). Teacher-pupil relationship essentially determine the socioemotional atmosphere of classroom. The most important factor in shaping the socio-emotional climate of the classroom is the kind of relationship which exist between the teacher and pupil, the favourable relationship promote efficiency, happiness and adjustment of both the teachers and pupils. Students are sensitive to teachers personality and behaviour. Critical statement, threats and sarcasm create an almost immediate change in emotional tension with the classroom. The students react to the presence and behaviour of the teacher as they attempt to satisfy their own needs in accordance with their personal values and previous experiences.

Bhasin, (1987). It has become increasingly clear that a wholesome teaching learning milieu depends upon the pupil. Considerations conducive to facile teacher-pupil perception are the feelings of each being linked and accepted by the other. Teacher-pupil perception cannot be most salutary kind unless the teacher genuinely like a pupils. To this end, the teacher can become familiar with the characteristics of pupils that he know that what can be expected of them in terms of intellectual ability, social adaptability and personality and character, and can show friend liners by being courteous, taking time to listen and avoiding the situations that undermine a study self concept. Pupils like teachers who perceive pupils learning as transcending teachers teaching. For this pupils perceptions should be considered in formulating aim and planning activities, the pupil must be heard if he is to belief that he counts. Research on the relationship of learning to Teacher-Pupil Perception is a yet rudimentary; but the author is convinced that teacher-pupil perception human behaviour in general is a vital component in school learning.

Arora, Reeta (1988) conducted a study with a sample of 450 students studying in different types of schools of Agra city. She found that educational standard of students and teacher student relationship were found to be significantly related.

Barbara (1989) conducted a study on teachers expectation and low achieving students and found that higher expectation for student achievement are part of a pattern of different attitudes, beliefs, and behaviours characterizing teachers and schools that are effective in maximizing their students learning gains. It was also found that effect of negative.

Narayanan (1996) studied about classroom climate and attitude towards science on achievement in biology of students in standard IX of Kerala. 600 sample were selected for the study. It was found that the main effect of classroom climate in achievement in biology was significant for the total sample as well as subsamples.

Sasidharan (1997) studied influence of classroom environment on academic achievement. The main objective was to study the main effect of classroom environment on achievement of standard VII, pupils. His major findings was that classroom environment is a significant factor influencing achievement.

Michal *et.al* (2001) carried out a study compared science students perception of their teacher-student interaction with those of their teachers. The results confirms that teachers actual perceptions of their interactions with students affect students perceptions, which in term affect teachers perception.

Provasnik *et.al* (2003) studied the relationship between teacher quality and students educational attainment. This study used data from the National Educational Longitudinal study of 1988 to explore the relationship of teacher quality of student educational attainment by looking and how the quality of a students' eighth grade mathematics teacher is related. It is found that the quality of students eighth grade mathematics teacher is positively related to the three indicators of educational attainment as long as one does not control for the achievement level of the students eighth grade mathematic class.

**CONCLUSION**

The above review of studies gave a wide perspective of the present problem under study. Moreover, by reviewing related studies the investigator could identify the problem areas of Teacher-Pupil Relationship. The area so identified are communication. Classroom climate, teacher behaviour, teachers expectations, inter relations, punishment etc. most of the studies related to the present study have been conducted out side Kerala. This inspired the investigator to undertake the present study.

**METHODOLOGY**

The selection of research method to be used has great importance in the research procedure. It refers to the general strategy followed in collecting and analyses the data necessary for solving the problem.

In this chapter the design of the study which has been presented under the follow headings.

1. Variables of the study
2. Objectives of the study
3. Hypotheses of the study
4. Sample for the study
5. Tool used for the study
6. Data collection procedure.
7. Scoring and consolidation of data.
8. Statistical techniques used for analysis of data

The details of each of the above is given below.

**A. VARIABLES OF THE STUDY**

Variables are the conditions or characteristics that the experimenter manipulate, controls or observes.

The independent variables are the conditions or characteristics that the experimenter manipulate or controls in his or her attempt to ascertain their relationship to the observed phenomena.

The dependent variable are the conditions or characteristics that appear, disappear or change as the experimenter introduces, removes or changes independent variables.

In this study the researcher check the significant relationship between Teacher-Pupil Relationship and Academic Achievement in Biology so teacher pupil relation has been selected as the independent variable and the academic achievement in Biology has been selected as the dependent variable.

**B. OBJECTIVES OF THE STUDY**

The objectives of the present study are the following.

I To find out the influence of Teacher-Pupil relationship on Academic Achievement in Biology among Secondary School Students.

II To find out the relationship between Teachers-Pupil Relationship and Academic Achievement in Biology among Secondary School Students. Based on following variables.

1. Levels of achievement

2. Gender of teachers

3. Gender of students

4. Locate of schools

5. Type of School management.

6. Type of schools.

**C. HYPOTHESES OF THE STUDY**

I. There exist significant relationship between Teacher-pupil Relationship and Academic Achievement in Biology.

II. There exist significant difference in relationship between Teacher-pupil Relationship and Academic Achievement in Biology for the relevant subsample based on,

1. Levels of Achievement

2. Gender of teachers

3. Gender of students

4. Locale of schools

5. Type of School management.

6. Type of schools.

**D. SAMPLE FOR THE STUDY**

For the present study stratified random sampling method was adopted. A stratified random sample is one in which the members of the sample belong to the various strata of population are included. This technique is used to ensure the representatives of the whole population and avoid bias.

The population selected for the present study is standard IX pupil and their respective biology teachers from Malappuram District.

**Sampling Technique**

The different strata considered in the population and explanation are as follows:

Level of Achievement

Gender of teachers

Gender of students

Locale of schools

Type of School management.

Type of schools.

**Level of Achievement**

Differences are reflected in achievement, just like individual differences. In the present study, the investigator classified the total sample into three groups as per the mark scored in biology achievement test. That is high achievers, average achievers and low achievers. The students who scored mark above 30 belong to high achievers, in between 15 to 29 average achievers and there who scored below 14 are grouped as low achievers.

**Gender of the student**

The sex of student has been important role in the selection of a sample because in many of the studies it has been found that difference exist in many of psychological variables and in academic achievement so the investigator included almost equal proportion of girls to boys.

**Gender of teacher**

Since it has been found that sex difference exist in many of the psychological variable the investigator decided to give the due weightage to both male and female teachers.

**Locale**

In Malappuram, there are schools both in rural and urban areas. As local difference is noticed in many of the traits, it was divided to give representation to the factor locale. As the number of school in Urban area are more, it was decided to select school based on locale in the ratio rural: Urban, 7:8 respectively.

**Type of Management**

In Kerala, there are schools run by both Government, Aided and Unaided. In the present study the investigator took more Government school than Aided and Un aided school on the ratio Government : aided : Unaided, 7:4:4.

**Type of school**

In Kerala, there are three type of school present that is boys only school, girls only school and mixed school. In the present study the investigator took more mixed school than boys and girls type school. The ratio is 6:4:4.

**Size of the sample**

The study was proposed to be conducted on a representative sample of 800 pupils-of Malappuram district. The investigator selected 4 boys only shoo 4 girls only school and 6 co-education school. Selection was limited to those school because of limited time and other practical reasons. The details of the sample distribution considered for the study are given in Table I

TABLE I

**Break-up the Basal Sample on the basis of Rural and Urban**

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| Area | Boys only | Girls only | Mixed | total | Grand Total |
| Rural | 32 | 44 | 376 | 452 | 800 |
| Urban | 133 | 166 | 99 | 348 |

**E. TOOL USED FOR THE STUDY**

Each tool is appropriate for the collection of certain type of evidence or information. The research has to select form the available tool, which will provide adequate data, she/he requires for testing of the hypothesis. In some situation he/she may find that existing research tools do not suit his purpose and so she/he may modify them or construct his or her own" ( Kaul - 1997).

In the present study, Teacher-pupil relationship is the independent variable and to measure this variable no appropriate tool was available. Hence the investigator attempt to develop Teacher-Pupil Relationship Scale in pupil version and Teacher version with the help of her supervising teacher.

The pupil version Teacher-Pupil Relationship scale is used to collect data from the students this data is used to understand the opinion about Teacher-Pupil Relationship among the pupils.

The Teacher version Teacher-Pupil Relationship scale is used to collect data from the teachers and it is used to check the validity of the tool.

In this study investigator used another tool is an achievement test. It is prepared by the investigator in consultation with supervising teacher and experts. It was used for measuring the dependent variable, Achievement in Biology of students studying in standard IX of secondary school of Malappuram district.

**I. PROCEDURE OF THE CONSTRUCTION OF THE TEACHER-PUPIL RELATIONSHIP SCALE**

Since the purpose of the study is to construct and standardise teacher-pupil relationship scale for secondary school pupils of Malappuram district; the construction procedure of the test of Teacher-Pupil Relationship scale have been described under the following 4 heads.

1. Planning of test

2. Preparation

3. Try-out

4. Finalisation

Each of the above four stage has been described in details as follows.

**1. PLANNING OF SCALE**

The first step of construction and structure of Teacher-Pupil Relationship Scale is the planning for the preparation of scale. When planning, the investigator received theories, related literature and previous tests. She also consulted with experts and accepted their valuable information for the construction of test items.

**Factors considered in the construction of tests are follows:**

In order to attain the goal of testing. Teacher-Pupil Relationship in students, proper consideration of the components of Teacher-Pupil Relationship will have been taken.

In the present study investigator has identified 13 major components.

* Communication
* Group assignment
* Classroom arrangement and management
* Classroom environment and activities
* Reinforcement and motivation
* Punishment
* Co-operation
* Social Relation
* Freedom and Discipline
* Teacher led Instruction
* Guidance and counseling
* Teacher expectations
* Teacher Behaviour

**2. PREPARATION OF TEST ITEMS**

The test items were prepared in accordance with components involved in Teacher-Pupil Relationship. After preparing the test item the investigator has consulted with experts and in accordance with their opinion, she avoid ambiguous and vague items and initially pooled 100 items.

**3. TRY OUT OF THE SCALE**

A try out of the scale was conducted as a trail administration to know how the test will function in actual use. The largest test will help to find out the discriminating power of test items for this, the test was administered to a selected group of 800 students of standard 9.

**a. Sample selected for try out sample**

The dependability of study is determined to a great extend by the selection of the sample on which the test is administrated. It was impossible to cover the entire population and obtain a conclusion which was valid for the whole population so small sample selected from the population. The sample for the try-out was selected by stratified random sampling techniques.

TABLE 2

**Break-up the whole sample on the basis of subsample**

|  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| Level of Achievements | | | Pupils Gender | | No. of Students taught by teachers on the basis of Gender | | Locale of School | | Type of Management | | | Type of school | | |
| High | Average | Low | Boys | Girls | Male | Female | Urban | Rural | Govt. | Aided | Un-  Aided | Girls | Boys | Mixed |
| 142 | 511 | 147 | 394 | 406 | 402 | 398 | 348 | 452 | 297 | 307 | 196 | 160 | 165 | 475 |

**b. Scoring of try out of the scale**

The sheet were scored using the scoring scheme for each positive item, a score of 5 was given to the response very high and for the entries high, average, least, not at all were given 4,3,2 and 1 respectively. For negative items reverse scorning procedure were adopted. The score of the individual items were summed to give total scores of the students for the try out section.

**4. FINALISATION OF SCALE**

For the finalization of the scale item analysis was done the procedure suggested by Edwards (1997) was followed.

The scored response sheet were arranged in the descending order, on the basis of scores obtained. Then the subjects having top 27% and low 27% scores were taken as high and low group respectively. Under each group, the score obtained for each individual for each item were presented in a chart, the number of pupil marking not at all, least, average, high and very high were calculated and presented in the form of a frequency distribution. For each item the mean and standard deviation were calculated. The 't' value of each statement was calculated using the formula.

t =  (Edward 1950)

Where,  → The mean response score on a given statement for the high group

 → The mean response score obtained on a given statement for low group

 → The variance of the distribution of the response scores on a given statement for the high group

 → The variance of the distribution of the response score on a give statement for the low group

 → Number of subjects in the high group

 → Number of subjects in the low group.

The t-value obtain for each standard is given in table 3.

TABLE 3

**The t value of the Data obtained on item analysis**

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| Sl No. |  |  |  |  | t value |
| 1 | 2.24 | 1.80 | 0.88 | 0.83 | 4.97 |
| 2 | 2.74 | 1.99 | 0.95 | 0.88 | 5.79 |
| 3 | 2.86 | 1.79 | 1.23 | 0.90 | 7.01 |
| 4 | 3.85 | 2.68 | 1.08 | 1.04 | 8.10 |
| 5 | 4.59 | 3.70 | 0.85 | 1.35 | 5.57 |
| 6 | 3.72 | 2.37 | 1.16 | 0.93 | 9.11 |
| 7 | 1.71 | 1.24 | 0.96 | 0.71 | 3.94 |
| 8 | 2.57 | 1.46 | 1.31 | 0.85 | 7.11 |
| 9 | 3.37 | 2.12 | 1.17 | 0.90 | 8.59 |
| 10 | 3.60 | 2.71 | 1.19 | 1.17 | 5.34 |
| 11 | 3.79 | 2.35 | 1.09 | 1.03 | 9.63 |
| 12 | 3.23 | 1.48 | 1.33 | 0.66 | 11.77 |
| 13 | 3.89 | 1.93 | 1.16 | 1.07 | 12.43 |
| 14 | 3.74 | 1.97 | 1.28 | 1.10 | 10.84 |
| 15 | 4.34 | 2.95 | 0.99 | 1.18 | 9.02 |
| 16 | 3.66 | 2.10 | 1.17 | 0.94 | 10.38 |
| 17 | 4.18 | 3.76 | 1.19 | 1.16 | 2.52 |
| 18 | 4.32 | 2.61 | 0.98 | 1.14 | 11.38 |
| 19 | 3.22 | 1.59 | 1.21 | 0.74 | 11.49 |
| 20 | 4.90 | 2.17 | 1.07 | 1.08 | 12.59 |
| 21 | 3.34 | 2.18 | 1.21 | 1.10 | 7.09 |
| 22 | 3.69 | 1.78 | 1.15 | 0.89 | 13.10 |
| 23 | 2.86 | 1.03 | 1.35 | 0.81 | 9.40 |
| 24 | 3.37 | 1.87 | 1.19 | 0.85 | 10.24 |
| 25 | 3.85 | 1.64 | 1.08 | 0.86 | 16.05 |
| 26 | 4.17 | 3.51 | 1.30 | 0.08 | 3.92 |
| 27 | 4.00 | 2.26 | 1.10 | 0.91 | 12.20 |
| Sl No. |  |  |  |  | t value |
| 28 | 2.93 | 1.48 | 1.27 | 0.72 | 9.97 |
| 29 | 3.05 | 1.92 | 1.52 | 1.12 | 5.99 |
| 30 | 3.64 | 2.77 | 0.04 | 1.20 | 4.72 |
| 31 | 3.89 | 2.18 | 0.90 | 0.98 | 12.88 |
| 32 | 3.15 | 1.92 | 1.23 | 1.06 | 7.56 |
| 33 | 4.19 | 2.59 | 0.87 | 1.18 | 10.89 |
| 34 | 3.80 | 2.52 | 1.05 | 1.08 | 8.49 |
| 35 | 3.92 | 2.31 | 1.13 | 1.19 | 9.85 |
| 36 | 4.40 | 2.24 | 0.86 | 1.19 | 14.68 |
| 37 | 4.41 | 3.90 | 1.06 | 1.28 | 3.07 |
| 38 | 3.52 | 2.47 | 1.21 | 1.04 | 6.58 |
| 39 | 4.42 | 3.77 | 1.11 | 1.25 | 3.88 |
| 40 | 4.51 | 3.90 | 0.90 | 1.37 | 3.71 |
| 41 | 4.65 | 4.17 | 0.95 | 1.25 | 3.03 |
| 42 | 3.22 | 1.59 | 1.21 | 0.74 | 11.49 |
| 43 | 3.68 | 2.10 | 1.14 | 0.99 | 10.44 |
| 44 | 3.62 | 1.85 | 1.32 | 0.95 | 10.92 |
| 45 | 3.76 | 2.29 | 0.21 | 1.06 | 9.16 |
| 46 | 4.21 | 1.97 | 0.87 | 0.85 | 18.48 |
| 47 | 3.79 | 2.04 | 1.14 | 0.93 | 11.89 |
| 48 | 4.28 | 3.64 | 1.34 | 1.34 | 3.27 |
| 49 | 4.34 | 2.07 | 0.83 | 0.86 | 19.02 |
| 50 | 3.22 | 1.71 | 1.24 | 1.05 | 9.32 |
| 51 | 2.32 | 1.64 | 1.31 | 0.95 | 4.21 |
| 52 | 4.54 | 3.26 | 0.86 | 1.13 | 9.00 |
| 53 | 2.96 | 1.71 | 1.30 | 0.84 | 8.05 |
| 54 | 3.01 | 2.00 | 1.33 | 1.17 | 5.70 |
| 55 | 3.72 | 4.18 | 1.33 | 1.04 | 2.73 |
| 56 | 3.56 | 1.84 | 1.11 | 0.93 | 11.86 |
| 57 | 3.04 | 2.23 | 1.23 | 1.29 | 4.54 |
| 58 | 4.34 | 3.52 | 1.23 | 1.46 | 4.27 |
| 59 | 4.47 | 4.23 | 0.79 | 1.00 | 4.22 |
| Sl No. |  |  |  |  | t value |
| 60 | 4.02 | 2.59 | 1.03 | 1.06 | 9.63 |
| 61 | 3.60 | 2.71 | 1.19 | 1.17 | 5.34 |
| 62 | 4.03 | 2.58 | 1.05 | 1.20 | 9.10 |
| 63 | 3.83 | 1.87 | 0.95 | 0.98 | 14.40 |
| 64 | 3.16 | 1.48 | 1.45 | 0.73 | 10.32 |
| 65 | 3.29 | 1.63 | 1.27 | 0.91 | 10.66 |
| 66 | 3.08 | 1.65 | 1.20 | 0.80 | 9.91 |
| 67 | 3.83 | 1.96 | 1.02 | 1.12 | 12.38 |
| 68 | 3.63 | 1.72 | 1.06 | 0.89 | 13.81 |
| 69 | 3.64 | 2.77 | 0.04 | 1.20 | 4.72 |
| 70 | 3.96 | 2.41 | 1.14 | 0.98 | 10.35 |
| 71 | 4.26 | 2.79 | 1.04 | 1.16 | 9.44 |
| 72 | 4.20 | 2.64 | 1.03 | 0.07 | 10.44 |
| 73 | 3.52 | 2.47 | 1.21 | 1.04 | 6.58 |
| 74 | 4.27 | 2.51 | 0.95 | 1.03 | 12.55 |
| 75 | 3.82 | 2.03 | 0.38 | 0.90 | 13.00 |
| 76 | 4.32 | 3.77 | 1.06 | 1.29 | 3.29 |
| 77 | 3.77 | 2.06 | 1.08 | 0.74 | 13.07 |
| 78 | 3.77 | 2.17 | 0.99 | 0.94 | 11.68 |
| 79 | 1.95 | 2.01 | 1.56 | 1.09 | 0.32\* |
| 80 | 3.99 | 2.63 | 1.04 | 1.09 | 9.04 |
| 81 | 3.71 | 1.87 | 1.28 | 0.93 | 11.63 |
| 82 | 3.73 | 2.27 | 1.22 | 1.01 | 9.20 |
| 83 | 3.26 | 2.04 | 1.43 | 0.89 | 7.24 |
| 84 | 3.66 | 2.12 | 0.92 | 0.96 | 14.12 |
| 85 | 3.16 | 2.15 | 1.47 | 1.04 | 3.67 |
| 86 | 4.02 | 2.35 | 1.14 | 1.04 | 10.85 |
| 87 | 3.07 | 3.25 | 1.37 | 1.41 | 0.91\* |
| 88 | 3.90 | 2.07 | 1.06 | 0.91 | 12.83 |
| 89 | 3.88 | 2.10 | 1.09 | 0.95 | 12.35 |
| 90 | 3.63 | 1.99 | 0.99 | 0.96 | 11.89 |
| 91 | 4.17 | 2.18 | 0.83 | 0.86 | 16.57 |
| Sl No. |  |  |  |  | t value |
| 92 | 4.03 | 2.09 | 0.92 | 0.77 | 14.25 |
| 93 | 4.02 | 2.13 | 0.95 | 0.86 | 14.72 |
| 94 | 4.26 | 2.76 | 0.89 | 1.16 | 10.83 |
| 95 | 3.96 | 2.19 | 1.02 | 0.95 | 12.67 |
| 96 | 4.21 | 3.71 | 1.17 | 1.16 | 3.03 |
| 97 | 2.79 | 1.76 | 1.32 | 0.85 | 7.09 |
| 98 | 3.66 | 2.06 | 1.23 | 0.92 | 10.40 |
| 99 | 3.89 | 2.39 | 1.09 | 0.97 | 10.26 |
| 100 | 4.10 | 2.33 | 0.93 | 1.03 | 12.81 |

\* represent the rejected item.

According to Edwards (1957) statements with t-value equal or greater than 1.75 can be selected. But, as the t-value obtained for statement in the present scale are relatively high the investigator selected statements with t-value equal or greater than 2.58 for the scale. Thus 2 items were rejected. There were 98 items in the final Teacher Pupil Relationship Scale included. A copy of Teacher-Pupil Relationship Scale is given as Appendix I and V. Dimension wise distribution of items of the Scale are presented in the table 4.

TABLE 4

**Component wise distribution of   
items in the Teacher-Pupil Relationship Scale**

|  |  |
| --- | --- |
| Components of Statements | Item number |
| Communication | 1, 2, 3, 4, 5, 6, 7, 8 |
| Group assignment | 10, 11 |
| Classroom management and arrangements | 12, 13, 14, 15, 16, 17,18 |
| Classroom environment and activities | 19, 20, 21, 22, 23, 24, 25, 26 |
| Reinforcement and motivation | 27, 28, 29, 30, 31, 32, 33, 34, 35, 36 |
| Punishment | 37, 38, 39, 40, 41, 42 |
| Co-operation | 43, 44, 45, 46, 47, 48, 49 |
| Social relation | 50, 51, 52, 53 |
| Freedom and discipline | 54, 55, 56 |
| Teacher led instruction | 57, 58, 59, 60, 61, 62 |
| Guidance and Counseling | 63. 64, 65, 66, 68 |
| Teacher expectations | 9, 67, 69 |
| Teacher behaviour and quality | 70, 71, 72, 73, 74, 75, 76, 77, 78, 79, 80, 81, 82, 83, 84, 85, 86, 87, 88, 89, 90, 91, 92, 93, 94, 95, 96, 97, 98, 99, 100 |

TABLE 5

**Example of the items from all the dimensions**

|  |  |
| --- | --- |
| Components | Example |
| Communication | Teacher discuss different matters related to your subject even out side the classroom. |
| Group assignment | Teacher give sufficient group assignments, hints and guidelines for the students. |
| Classroom arrangement and management | Teacher try to arrange the learning equipments in the class in much a way bring the attention of whole class a like. |
| Classroom environment and activity | Teacher provide enough directions to deal with the learning aids and opportunities to use the library. |
| Reinforcement and motivation | Teacher find out and encourage the students who are talented in extra-curricular activities. |
| Punishment | Teacher punish the low achievers severely. |
| Co-operation | Teacher can present activities that are helpful to increase mutual co-operation among the students. |
| Social Relation | Teacher planned and implemental P.T.A. activities for the development of pupils. |
| Freedom and discipline | Teacher allow the students to study freely inside and out side the classroom. |
| Teacher led instruction | Teacher give chance to the student who can't give answer or who give wrong answer for giving right answer. |
| Guidance and Counselling | Teacher realise the abilities of the students and give them proper guidance for higher education. |
| Teacher expectation | Teacher make expectation in the pupils abilities and you are grow as per teachers expectations. |
| Teacher Behaviour | Teacher keep sincerity to both students and profession. |

**RELIABILITY**

Reliability refers to the extent to which the responses or behaviour mode by individuals are consistent across items, settings, refers or time.

For the present study reliability was determined by test-retest method. The teacher-pupil relationships scale was retested on a sample of 40 students after an interval of two weeks. The correlation between the first test score and the retest were calculated using the Pearson's product moment of correlation.

r = 

For the present scale reliability was found to be .654, which indicate that the scale is reliable.

**VALIDITY**

An index of validity shows the degree to which a test measures what it intends to measure when compared with accepted criteria.

The tool was prepared and finalised in consultation with the experts. Hence it has face validity.

The test also adequately covered the different components of teacher pupil relationship viz; Communication, group assignment, Classroom arrangement and management, Classroom environment and activities, Reinforcement and motivation, Punishment, Co-operation, Social relation, Freedom and discipline, Teacher led instruction, Guidance and counseling, Teacher expectations, Teacher behaviour and quality. Hence it has content validity too.

To ensure the criteria related validity the score obtained from the pupil response was correlated with the score obtained from the teachers rating, which was considered as external criterion. It was found to be .74 this means that the test of teacher-pupil relationship possess good degree of validity.

**II. PROCEDURE OF THE CONSTRUCTION OF BIOLOGY ACHIEVEMENT TEST**

Achievement test prepared by the investigator in consultation with the supervising teacher was used for measuring the dependent variable, Achievement in Biology of pupils studying in standard IX of secondary school of Malappuram District.

The procedure followed in the development of the test of achievement in Biology are discussed below.

**1. PLANNING OF THE TEST**

Objectives and content of the secondary school syllabus in biology are carefully studied. It was divided that the content of the achievement test includes some units of Biology which the students study in standard IX. It was also decided to prepare a test of about 36 items. The test which the students can take with in a duration of 2 hours. Objective type and descriptive type categories were included in the test. Scientific procedure for preparing an achievement test as suggested by Ebel in 1972, was strictly followed

**a. Weightage to Objectives**

The test include objectives relating to objective domain of Bloom's (1979) taxonomy of instructional objectives. But items were confined to objective related to knowledge, understanding, application, analysis, synthesis and evaluation. The weightage assigned to the objective are given below.

TABLE 6

**Weightage to objectives in the test of Achievement in Biology**

|  |  |  |
| --- | --- | --- |
| Objectives | Mark | Percentage |
| Knowledge | 5½ | 11% |
| Understanding | 11½ | 23% |
| Application | 4 | 8% |
| Analysis | 17 | 34% |
| Synthesis | 6 | 12% |
| Evaluation | 6 | 12% |
| Total | 50 | 100% |

**i. Knowledge**

According to Bloom, knowledge include those behaviour and test situations which emphasize remembering either by recognition or recall of ideas, material or phenomena. Two illustrative items are given below.

Example

1. The amount of energy released from glucose molecule by the process of glycolysis.

(36 ATP, 38 ATP, 2 ATP, 34 ATP)

2. To write the names of 5 nucleotides

**ii. Understanding**

According to Bloom (1979) comprehension refers to type of understanding or apprehension such that the individual knows what is being communicated and make uses of the material or idea being communicated with our necessary relating to it other material or seeing its fullest implication. Two illustrative examples are given below.

1. Which of the following does not belong to exoskeleton

(Finger bone, Nail, Hair, Scales)

2. How do lenticels differ from stomata?

**iii. Application**

It is the ability to use learned material in new and concrete situations learning out come in this area require a higher level of understanding than those under comprehension. Two illustrative items are given below.

Example:

1. How do the structure of respiratory system influences the process of respiration?

2. How will the offspring be like; when the heterozygous tall pea plant of F2 generation is committed to self fertilization?

**iv. Analysis**

Analysis is the meaningful breakdown of material in to its components and the detection of inter-relationship of the components and the manner in which they are organized. Analysis of relationships, Analysis of elements and Analysis of organizational principles are the three levels.

Example:

1. Analyse the role of male honey bee in the process of reproduction.

2. Analyse whether the reduction of vital capacity negatively influence health.

**v. Synthesis**

It is the complex ability at a higher level of cognition. This involve the ability of an individual to put together elements or parts so as to form a whole or a new pattern. It involve an ability to give new shape or structure of procedures.

Example:

1. Draw a flow chart containing different steps of cellular respiration.

2. Given below are the different pea plants found in the garden of mental.

(1) The round seeded yellow pea plants - 90

(2) The wrinkled seeded green pea plants - 10

(3) The wrinkled seeded yellow pea plants - 30

(4) The round seeded green pea plants - 20.

Explain the process by which Mental conducted hybridization for obtaining such a garden.

**vi. Evaluation**

This is the highest level of cognitive structure. It is also the complex ability which involve all other abilities. It enables an individual to judge material, method, product or process against a standard and to establish the worth of it.

Example:

1. How do amoeba withstand the situation of water containing traces of pesticides?

2. A men placed a potted plant in a room for getting more amount of oxygen. What is your opinion about this activity..

**b. Weightage to Content**

The investigator analysed the content unit wise for determining the weightage to be given. Adequate weightage was given for units. The weightage given to each units is given in table 7.

TABLE 7

**Weightage to content in the test of Achievement in Biology**

|  |  |  |  |
| --- | --- | --- | --- |
| SL. NO. | CONTENT | MARK | PERCENTAGE |
| 1 | Nutrition in Plants | 2 | 4% |
| 2 | Nutrition in Animals | 3 | 6% |
| 3 | Respiratory process in Animals | 10½ | 21% |
| 4 | Skeletal system and Muscular system | 9½ | 19% |
| 5 | Genetics | 23½ | 47% |
| 6 | Continuity of life | 1½ | 3% |
|  | Total | 50 | 100% |

**c. Weightage to Form of Question**

The test contain objective type, short answer type and essay type questions. The relative weightage given to the form of questions are given in the table 8.

TABLE 8

**Weightage to form of questions**

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| Sl. No. | Form of Questions | No. of items | Mark | Percentage |
| 1 | OBJECTIVE TYPE  Multiple choice type  Completion type  Match the following type | 8  3  3 | 4  3  3 | 8%  6%  6% |
| 2 | SHORT ANSWER TYPE  1 mark  2 mark  2½ mark  3 mark | 11  2  6  2 | 11  4  15  6 | 22%  8%  30%  12% |
| 3 | ESSAY TYPE  4 mark | 1 | 4 | 8% |
|  | Total | 36 | 50 | 100% |

**d. Blue Print**

A three dimensional grid (blue print) specifying the content covered by the test in relation to the weightage assigned for objectives and form of questions was prepared as shown in table.

TABLE 9

**Blue print of Achievement Test in Biology**

|  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| **OBJECTIVES** | **KNOWLEDGE** | | | **UNDERSTANDING** | | | **APPLICATION** | | | **ANALYSIS** | | | **SYNTHESIS** | | | **EVALUATION** | | | **TOTAL**  **MARK** |
| Form of Question  Content | Objec-tive | Short answer | Essay | Objec-tive | Short answer | Essay | Objec-tive | Short answer | Essay | Objec-tive | Short answer | Essay | Objec-tive | Short answer | Essay | Objec-tive | Short answer | Essay |
| Nutrition in plants | - | - | - | - | 1(1) | - | - | - | - | 1(1) | - | - | - | - | - | - | - | - | 2 |
| Nutrition in Animals | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | 3(1) | - | 3 |
| Respiratory process in Animals | ½(2) | - | - | - | - | - | - | 1(2) | - | - | 2½(1) | - | - | 2(1) | - | - | 3(1) | - | 10½ |
| Sckeletal system Muscular system | - | - | - | ½(2) | 1(1)  2(1)  2½(1) | - | - | 1(1) | - | 1(1) | 1(1) | - | - | - | - | - | - | - | 9½ |
| Genetics | ½(1) | 1(1)  2½(1) | - | ½(2) | 1(2) | - | - | 1(1) | - | 1(4) | 2½(3) | - | - | - | 4(1) | - | - | - | 23½ |
| Continuity of life | ½(1) | - | - | - | 1(1) | - | - | - | - | - | - | - | -- | - | - | - | - | - | 1½ |
|  | 2 | 3½ | - | 2 | 9½ | - | - | 4 | - | 6 | 11 | - | - | 2 | 4 | - | 6 | - | 50 |

**2. ITEM WRITING**

In order to get enough number of items of proved psychometric properties in the final test 16 objective items with 24 descriptive items were pooled initially by referring to text books, reference book and question banks. The items were subjected to scrutiny by experienced teacher educators and teachers. On the basis of their suggestion some items were deleted, some others were modified, finally 36 items included in the final text.

**3. PIOLET TESTING**

The draft test was prepared according to the design decided earlier, a piolet text was conducted on a sample of students taken at randomly from standard IX of R.H.S. Ramanattukara. Oral instructions were also given besides the written instructions to clear doubts. Time taken for competing the text was noted. Piolet test was helped the investigator to fix the time limit for taking the test and to note the ambiguous items and items with improper language style. Then the items were further edited. Thus the final draft test was prepared with necessary instructions and it has printed like a second terminal examination question paper.

**4. TRY OUT OF DRAFT TEST**

Try out of the draft test has helped the investigator to select suitable items for the final test by empirically estimating the difficulty level and discriminating index of each item in the draft test. For the try out, the text was administered to a sample of 800 students studying in standard IX of 15 school in Malappuram District. The sample was selected at randomly. The test was administrated during January: 2005. The proper instruction was given regarding the method of answering prepared earlier. Half and one marks score was given for each objective type correct response and two, two and half and three marks score was given for each short answer responses and four marks score was given for the essay and no score for incorrect response.

**VALIDITY**

Content and construct validity of the test was ensured by preparing the test following the scientific procedure of construction of an achievement test. The face validity of the achievement test was estimated by the experts in Biology.

**RELIABILITY**

According to Anasasi (1962) "Reliability means the consistency with which a set of test scores measures whatever it does measure". Best points out (1995) "Reliability is the quality of consistency that the instrument or procedure demonstrates over a period of time. Whatever it determines it does so consistently". From these definitions it is clear that reliability is the consistency of the test, yielding the same results in measuring whatever it does measure.

For the present study the reliability of achievement test was determined by test retest method. The achievement test retested on a sample of 40 students after an interval of two week. The correlation between the first text score and the retest were calculated using the Pearson's product moment of correlation.

r = 

For the present scale reliability was found to be .721, which indicate that the scale is reliable.

**Table - 10**

**The break-up details and the school wise distribution of final sample**

Total 800

Urban Rural (348) (452)

Government Unaided Government Unaided

(249) (51) (48) (145)

girls boys girls boys girls boys girls boys

(166) (133) (24) (27) (27) (21) (76) (69)

Aided Aided (48) (259)

girls boys girls boys (26) (22) (130) (129)

TABLE 11

**Details of school-wise distribution**

|  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- |
| Sl. No. | Name of the school | Locality | Boys/Girls/  Mixed | Management | No. of students | | Total |
| Boys | Girls |
| 1 | V.V.M.H.S. Marakkara | Rural | Mixed | Aided | 47 | 45 | 92 |
| 2 | P.M.S.A.M.H.S.S. Chambramkadavu | Rural | Mixed | Aided | 39 | 41 | 80 |
| 3 | R.H.S. Ramanattukara | Rural | Mixed | Aided | 43 | 44 | 87 |
| 4 | N.H.H.S.S. Boys, Kottakkal | Rural | Boys | Unaided | 32 | - | 32 |
| 5 | N.H.H.S. Girls, Kottakkal | Rural | Girls | Unaided | - | 44 | 44 |
| 6 | Almanar H.S.S, Randathani | Rural | Mixed | Unaided | 37 | 32 | 69 |
| 7 | G.H.S.S. Kuzhimanna | Rural | Mixed | Govt. | 21 | 27 | 48 |
| 8 | G.G.H.S.S. Manjeri | Urban | Girls | Govt. | - | 33 | 33 |
| 9 | G.B.H.S. S, Manjeri | Urban | Boys | Govt. | 36 | - | 36 |
| 10 | G.B.H.S.S., Tirur | Urban | Boys | Govt. | 58 | - | 58 |
| 11 | G.G.H.S.S. Triur | Urban | Girls | Govt. | - | 32 | 32 |
| 12 | G.B.H.S.S., Malappuram | Urban | Boys | Govt. | 39 | - | 39 |
| 13 | G.G.H.S.S. Malappuram | Urban | Girls | Govt. | - | 51 | 51 |
| 14 | D.U.H.S.S. Panakkad | Urban | Mixed | Aided | 22 | `26 | 48 |
| 15 | M.S.M.H.S.S.  Kallingalparamba | Urban | Mixed | Unaided | 27 | 24 | 51 |
| Total | | | | | 401 | 399 | 800 |

**F. DATA COLLECTION PROCEDURE**

After fixing up the sample, the investigator contacted the head of the selected school and requested for permission to administer the test. Thus prior arrangement were made in collecting the data. A time schedule was fixed accordingly for the administration of the tools. In administering the tool, a uniform procedure was adopted through out the selected school. All the test were conducted during the month of January 2005.

The investigator herself administered the tool after giving general instructions. The students were informed that the tests have nothing to do with their class examination, this is done to eliminate the effect of anxiety and possible malpractice in their performance. Thus the investigator got the full support of students. First the score sheet were given to each student. The investigator explained and demonstrated how to fill-up the details and the answering. Then the data gathering tool were distributed. The instructions given were read out to the pupils to familiarize them with the test. Also the time limit was strictly followed.

**G. SCORING AND CONSOLIDATION OF DATA**

Before scoring the response sheet all the sheet with incomplete data were deleted. This resulted in a rejection of about 50 answer sheet from the basal sample. The final sample of the study was then reduced to 800 standard IX pupils.

Scoring was done as per the scoring scheme of each test described earlier along with the description of each test.

The scores obtained from the sample on all tests were then consolidated and tabulated for further analysis while doing this, data was consolidated separately for each stratum for convenience of further analysis.

**H. STATISTICAL TECHNIQUE USED FOR ANALYSIS OF DATA**

The scores obtained from 800 pupils were subjected to statistical treatments. The various statistical techniques and are given below.

**(a) Pearson's Product-Moment Coefficient of Correlation (r)**

Coefficient of correlation is calculated from row scores using the formula.

r =

Where,  = sum of X scores

 = sum of Y scores

 = sum of the squared X scores

 = Sum of the squared Y Scores

 = sum of the products of paired X and Y scores

N = Number of paired scores

The obtained 'r' is interpreted in terms of the following

**i)** Test of significance of the correlation by Fisher's 't'-test (Best and Kahn, 1989)

This is done by checking whether the t-value obtained by the formula.

, exceeds 1.96 or 2.58, for - significance at 0.05 level

and 0.01 level respectively, where 'r' is the obtained correlation coefficient in each case.

**ii)** The confidence interval of 'r

If the 'r' value obtained is significant at 0.01 level, the 0.99 confidence interval of 'r' is estimated using the formula ( r ±2.58 SEr)

Where,

SEr, the standard error of r = , r being the obtained coefficient of correlation.

If the 'r' value obtained in significant only at 0.05 level or not significant, the 0.99 confidence interval of 'r' is estimated using the formula r ±1.96 SEr

Where,

SEr = the standard error of r

r = the obtained coefficient of correlation.

**iii)** Verbal interpretation of 'r' (Garrett, 1966)

The following criteria are used for verbally interpreting the degree of relationship between the variables.

r from 0.00 to ± 0.20: indifferent or negligible.

r from ±2.20 to ± 0.40: low or slight relation.

r from ± 0.40 to ± 0.70: Substantial or Marked relationship

r from ± 0.70 to ± 1.00 : High to very high relationship.

**iv)** Shared Variance (Fox, 1969)

The formula for computing percentage variance shared between the variables is r2x100. The variation of the dependent variable that can be attributed to the variation in the independent variable.

**b. Test of significance of difference Between Mean for Different Categories**

The statistical technique test of significance of difference between means for difference categories is used to find out if there exist any significant difference in teacher pupil relationship and achievement between relevant subsamples.

The test of significance of difference between two means is knows as a 't' test.

t = 

Where,  = Mean of experimental sample

 = Mean of control sample

N1  = No. of case in experimental sample

N2 = No. of case control sample

 = Variance of experimental sample

 = Variance of control sample.

If the obtained critical ratio is greater than the required value for significance the mean different is considered to be significant.

**ANALYSIS AND   
INTERPRETATION OF DATA**

The present study is to find out the influence of Teacher-Pupil Relationship on Academic Achievement in Biology among secondary school students in Malappuram District. This Chapter deals.

**OBJECTIVES**

I. To find out the influence of Teacher-Pupil Relationship on Academic Achievement in Biology among secondary school students.

II. To find out the relationship between Teacher-Pupil Relationship and Academic Achievement in Biology among secondary school students. Based on the following variable.

1. Levels of achievement

2. Gender of the teachers

3. Gender of the students

4. Locate of the schools

5. Type of school management.

6. Type of the schools.

**HYPOTHESES**

I. There exist significant relationship between Teacher-Pupil Relationship and Academic Achievement in Biology.

II. There exist significant difference in relationship between Teacher-Pupil Relationship and Academic Achievement in Biology for the relevant subsample based on,

1. Levels of achievement

2. Gender of the teachers

3. Gender of the students

4. Locate of the schools

5. Type of schools management.

6. Type of the schools.

The analysis and discussion are presented under following headings.

**1.** **THE EXTENT OF INFLUENCE OF TEACHER-PUPIL RELATIONSHIP AND BIOLOGY ACHIEVEMENT IN SECONDARY SCHOOL STUDENTS.**

* **To test the coefficient of correlation between Teacher-Pupil Relationship and Biology Achievement in total sample and all subsamples.**

Thecollected data for the study has been analysed to find out the extent of relationship between the independent variable Teacher pupil relationship and the dependent variable Biology achievement. The extend of relationship between independent variable and dependent variable was estimated for total samples using Peasron's Product Moment Coefficient Correlation Method. The value of 'r' are given below.

**TABLE 12**

**Coefficient of correlation between**

**Teacher-Pupil Relationship and Academic**

**Achievement in Biology for total sample and all subsamples**

|  |  |  |
| --- | --- | --- |
| **Sl. No.** | **Sample** | **Coefficient of Correlation (r)** |
| 1 | Total sample | 0.32 |
| 2 | Urban | 0.37 |
| 3 | Rural | 0.29 |
| 4 | Male students | 0.35 |
| 5 | Female students | 0.29 |
| 6 | Students taught by Male teachers | 0.33 |
| 7 | Students taught by Female teachers | 0.27 |
| 8 | Government schools | 0.41 |
| 9 | Aided schools | 0.36 |
| 10 | Unaided schools | 0.14\* |
| 11 | Boys only | 0.33 |
| 12 | Girls only | 0.36 |
| 13 | Mixed | 0.31 |

\* not significant at 0.05 level

**Discussion**

The above table shows the coefficient of correlation between teacher Pupil-Relationship and Biology Achievement of Secondary Schools in Malappuram District. In the total sample and the subsamples formed based on gender, sex, locale, type of management and type of school. The coefficient of correlation for the total sample is 0.32 which denotes substantial or marked relationship. The coefficient of correlation for the urban sample 0.37 which denotes substantial or marked relationship. The coefficient of correlation for rural sample is 0.29, which denotes substantial or marked relationship. The coefficient of correlation for the male student sample is 0.35 which denotes substantial or marked relationship. The coefficient of correlation for the female students sample is 0.29 which denotes substantial or marked relationship. The coefficients of correlation for the students taught by male teachers sample is 0.33, which denotes substantial or marked relationship. The coefficient of correlation for the students taught by female teachers sample is 0.27, which denotes substantial or marked relationship. The coefficient of correlation for the Government school sample is 0.41, which denotes substantial or marked relationship. The coefficient of correlation for the aided school sample is 0.36, which denotes substantial or marked relationship. The coefficient of correlation for the unaided school sample is 0.14, which denotes negligible relationship. The coefficient of correlation for the boys only school sample is 0.33 which denotes substantial or marked relationship. The coefficient of correlation for the girls only school sample is 0.36 which denotes substantial or marked relationship. The coefficient of correlation for the mixed school sample is 0.31 which denotes substantial or marked relationship.

**Relation Between Achievement in Biology and the Independent Variable**

The details of the correlation coefficient obtained between Achievement in Biology and each of the select independent variables for total sample and subsamples together with the 't' value, the limit of 0.01 confidence interval and shared variance are summarised in the table 13 to table 18.

**TABLE 13**

**Correlation of Achievement in Biology and**

**select independent variable for the total sample**

|  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- |
| Sample | N | r | t= | SEr = | Confidence Interval  (0.01 level) | | Shared  variance  r2x100 |
| Upper limit  r+2.58xSEr | Lower limit  r-2.58xSEr |
| Total | 800 | 0.32 | 9.70 | 0.03 | 0.41 | 0.24 | 10.55 |

From the table the following conclusions can be made regarding the relation between Teacher-Pupil Relationship and Biology Achievement.

In the total sample the coefficient of correlation between Teacher Pupil Relationship and Biology Achievement (r = 0.32) is significant at 0.01 level. The obtained correlation is positive and low. Population 'r' between these variables varies from 0.41 to 0.24 and the shared variance is 10.55, this indicate that approximately eleven percent of variance of Biology achievement is attributable to variation in Teacher-Pupil relationship.

**TABLE 14**

**Correlation of Achievement in Biology and selected**

**independent variable for the subsample of Locale of the schools**

|  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- |
| Sample | N | R | t= | SEr = | Confidence Interval (0.01 level) | | Shared variancer2x100 |
| Upper limit  r+2.58xSEr | Lower limit r-2.58xSEr |
| Urban | 348 | 0.37 | 7.33 | 0.05 | 0.49 | 0.25 | 13.62 |
| Rural | 452 | 0.29 | 6.36 | 0.04 | 0.40 | 0.18 | 8.24 |

From the above table the following conclusions can be made regarding the relation between Teacher-Pupil Relationship and Biology Achievement in the subsample of urban and rural schools.

In the urban schools significant correlation existing between Teacher-Pupil Relationship and Biology Achievement (r=0.37) at 0.01 level. This relation is positive and low. The population 'r' lies in the interval 0.49 to 0.25 and the variance shared between the variable is approximately 14 percent.

In the subsample of Rural school the relationship between these variables (r=0.29) in significant at 0.01 level, but this relation is low or slight though positive. For rural schools the population 'r' varies from 0.39 to 0.17 and only 8.24 percent of variance is shared between Teacher-Pupil Relationship and Biology Achievement.

**TABLE 15**

**Correlation of Achievement in Biology and selected**

**Independent variable for the subsample of the Gender of Teachers**

|  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- |
| Sample | N | r | t= | SEr = | Confidence Interval  (0.01 level) | | Shared  variance  r2x100 |
| Upper limit  r+2.58xSEr | Lower limit  r-2.58xSEr |
| No. of students taught by Male Teachers | 402 | 0.33 | 6.99 | 0.04 | 0.44 | 0.22 | 10.88 |
| No of Students taught by Female Teachers | 398 | 0.27 | 5.46 | 0.05 | 0.39 | 0.15 | 7.54 |

From the above table the following conclusion can be made regarding the relation between Teacher-Pupil Relationship and Biology Achievement in the subsample of the students taught by the male and female teachers.

The correlation obtained between Teacher-Pupil Relationship and Biology Achievement in the students taught by male teachers (r=0.33) is significant at 0.01 level. This relationship is positive and low. The population 'r' varies from 0.44 to 0.21 and the shared variance between the variables is 10.88. In the sample of students taught by female teachers, the relation between Teacher-Pupil Relationship and Biology achievement (r=0.27) in significant at 0.01 level. This relationship is positive and low or slight. The population 'r varies from 0.39 to 0.15 and the shared variance between the variable is 7.54.

**TABLE 16**

**Correlation of Achievement in Biology and selected**

**Independent variable for the subsample of the Gender of students**

|  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- |
| Sample | N | r | t=  r | SEr | Confidence Interval (0.01 level) | | Shared variance r2x100 |
| Upper limit r+2.58xSEr | Lower limit r-2.58xSEr |
| Boys | 394 | 0.35 | 7.49 | 0.04 | 0.47 | 0.24 | 12.53 |
| Girls | 406 | 0.29 | 6.18 | 0.05 | 0.41 | 0.18 | 8.63 |

From the table 16 the following conclusions can be made regarding the relationship and Biology achievement in the subsample of boys and girls.

Low or slight correlation exist between Teacher-Pupil Relationship and Biology achievement in Boys students (r=0.35) is significant at 0.01 level. For this subsample, population r varies from 0.47 to 0.24 and shared variance between the variables is 12.53. But in the girls students the relation between Teacher-Pupil Relationship and Biology achievement is significant and correlation is low, (r=0.29). The population varies from 0.45 to 0.41 and the shared variance between the variables is 8.63.

**TABLE 17**

**Correlation of Achievement in Biology**

**and selected Independent variable for the**

**subsample of the type of school Management**

|  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- |
| Sample | N | r | t=  r | SEr = | Confidence Interval (0.01 level) | | Shared variancer2x100 |
| Upper limit r+2.58xSEr | Lower limitr-2.58xSEr |
| Government | 297 | 0.41 | 7.66 | 0.05 | 0.53 | 0.28 | 16.59 |
| Aided | 307 | 0.36 | 6.78 | 0.05 | 0.49 | 0.23 | 13.08 |
| Unaided | 196 | 0.14 | 1.97 | 0.07 | 0.32 | -0.04 | 1.97 |

From the above table the following discussion can made regarding the relation between Teacher-Pupil Relationship and Biology Achievement in the subsample of the students of Government aided and unaided schools.

The correlation obtained between Teacher-Pupil Relationship and Biology achievement in Government school pupils (r=0.41) in significant at 0.01 level. This relation is positive and substantial. The population 'r' varies from 0.53 to 0.28 and shared variance between the variables 16.59.

In the subsample of aided school students the correlation of these variables (r=0.36) is significant at 0.01 level. This correlation is positive, though low or slight relation. Here, the population 'r' lies in the interval 0.49 to 0.23 and the shared variance between these variables is 13.08.

In the subsample of Unaided school students the relation between Teacher-Pupil Relationship and Achievement in Biology (r=0.14) is significant at 0.01 level. This correlation is positive but negligible. The population 'r' lies in the interval 0.32 to -0.04 and the shared variance between the variables in approximately two percent.

**TABLE 18**

**Correlation of Achievement in Biology and selected**

**Independent variable for the subsample of the type of schools**

|  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- |
| Sample | N | r | t= | SEr = | Confidence Interval  (0.01 level) | | Shared  variance  r2x100 |
| Upper limit  r+2.58xSEr | Lower limit  r-2.58xSEr |
| Boys only school students | 133 | 0.33 | 4.05 | 0.08 | 0.53 | 0.13 | 11.12 |
| Girls only schools students | 160 | 0.36 | 4.89 | 0.07 | 0.54 | 0.18 | 13.13 |
| Mixed school students | 507 | 0.31 | 7.20 | 0.40 | 0.41 | 0.20 | 9.31 |

From the table 18 the following discussion can made regarding the relation between Teacher-Pupil Relationship and Biology Achievement in the subsample of the type of the schools.

The correlation obtained between Teacher-Pupil Relationship and Biology Achievement in Boys only school students (r=0.33) is significant at 0.01 level. This relation is positive and low. The population 'r' varies from 0.53 to 0.13 and the shared variance between the variables is 11.12.

In the subsample of Girls only school students the relationship between these variables (r=0.36) is significant at 0.01 level. This relationship is positive and low or slight relation. The population 'r' lies in the interval 0.54 to 0.18 and the shared variance between the variables is 13.13 percent.

In the subsample of coeducation school students the relationship between Teacher-Pupil Relationship and Biology Achievement is (r=0.31) is significant at 0.01 level and the relation is positive and low. For this subsample, population 'r' varies from 0.40 to 0.20 and the shared variance between the variable is 9.31 percent.

**CONCLUSION**

The coefficient of correlation between Teacher-Pupil Relationship and Achievement of secondary school pupils are analysed. Result shows that there is a substantial relationship between Teacher-Pupil Relationship and Biology Achievement. It is also found that there is negligible relationship between teacher pupil relationship and achievement of unaided school students.

**2. THE EXTENT OF SIGNIFICANT DIFFERENCE IN TEACHER PUPIL RELATIONSHIP AND BIOLOGY ACHIEVEMENT IN SECONDARY SCHOOL STUDENTS**

* **To test whether there exist significant difference in teacher-pupil relationship and biology achievement between subsample based on**

1. Levels of Achievement

2. Gender of teachers

3. Gender of students

4. Locale of schools

5. Type of management of schools

6. Type of schools.

**Level of Achievement**

Comparison of Teacher-Pupil Relationship and Biology Achievement between different levels of achievement such as high achievers, average achievers and low achievers.

**(i) Comparison of Teacher-Pupil Relationship and Biology Achievement between high achievers and low achievers**

The mean and standard deviation of Teacher-Pupil Relationship and Biology Achievement between high achievers and low achievers were found out and test of significance of difference between these scores were calculated. The statistical data used and the result of the test of significance of the mean scores of Teacher-Pupil Relationship and Biology Achievement are presented in the table 19.

**TABLE 19**

**Data and Result of the test of significance of Difference in**

**Teacher- Pupil Relationship between high achievers and low achievers**

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| Sl. No. | Category | N | Mean | SD | t value | Level of significance |
| 1 | High achievers | 142 | 308.32 | 57.09 | 8.62 | 0.01 |
| 2 | Low achievers | 147 | 257.18 | 42.95 |

The table 19 indicates that the mean score of the Teacher-Pupil Relationship for the high achievers and low achievers are 308.32 and 257.18 respectively. The obtained standard deviation of high achievers and low achievers are 57.09 and 42.95. The calculated t value is 8.62. Which is greater than the table value 2.58 at 0.01 level of significance. Thus it can be found that there exist significant difference between Teacher-Pupil Relationship of the high achievers and low achievers.

**Discussion**

The analysis of above data shows that there exist significant difference between the teacher-pupil relationship of high achievers and low achievers. hence it can be concluded that the high achievers and low achievers are almost unequal in Teacher-Pupil Relationship. The mean value further indicates that the high achievers have high Teacher-Pupil Relationship than low achievers.

**(ii) Comparison of Teacher-Pupil Relationship and Biology Achievement between High achievers and average achievers**

The means and standard deviation of the Teacher-Pupil Relationship and Biology Achievement between high achievers and average achievers were found out and test of significance of difference between these scores were analysed. The statistical data used and the result of the test of significance of the mean scores of Teacher-Pupil Relationship and Biology Achievement are present in the table 20.

**TABLE 20**

**Date and Result of the test of**

**significance of Difference in Teacher-Pupil**

**Relationship between high achievers and average Achievers**

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| Sl. No. | Category | N | Mean | SD | t value | Level of significance |
| 1 | High achievers | 142 | 308.32 | 57.09 | 2.87 | 0.01 |
| 2 | Average achievers | 511 | 294.51 | 48.74 |

The table 20 indicate that the mean score of the Teacher-Pupil Relationship for the high achievers and average achievers are 308.32 and 294.51 respectively. The obtained standard deviation of high achievers and low achievers are 57.09 and 48.74. The calculated t value is 2.87, which is greater than the table value 2.58 at 0.01 level of significance. Thus it can be found that there exist significant difference between the Teacher-Pupil Relationship of high achievers and Average achievers.

**Discussion**

The analysis of above data shows that there exist signifcant difference between the Teacher-Pupil Relationship of high achievers and low achievers. The mean value further indicates that the high achievers have high Teacher-Pupil Relationship than the average achievers.

**(iii) Comparison of Teacher-Pupil Relationship and Biology Achievement between low achievers and average achievers**

The mean and standard deviation of the Teacher-Pupil Relationship and Biology Achievement between low achievers and average achievers were found out and test of significance of difference between these scores were calculated. The statistical data used and the result of the test of significance of the mean scores of Teacher-Pupil Relationship and Biology Achievement are presented in table 21.

**TABLE 21**

**Data and Result of the test of**

**significance of difference in Teacher-Pupil**

**Relationship between low achievers and average achievers**

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| Sl. No. | Category | N | Mean | SD | t value | Level of significance |
| 1 | Low achievers | 147 | 257.18 | 42.95 | 8.40 | 0.01 |
| 2 | Average achievers | 511 | 294.51 | 48.74 |

The table 21 indicates that the mean score of the Teacher-Pupil Relationship for the low achievers and the average achievers are 257.18 and 294.51 respectively. The obtained standard deviation of low achievers and average achievers are 42.95 and 48.51. The calculated t value is 8.40, which is greater than the table value 2.58 at 0.01 level of significance. Thus it can be found that there exist significant difference between the Teacher-Pupil Relationship of low achievers and average achievers.

**Discussion**

The analysis of above data shows that there exist significant difference between the Teacher-Pupil Relationship of low achievers and average achievers. Hence it can be concluded that the low achievers and average achievers are unequal in their Teacher-Pupil Relationship. The mean value further indicates that the average achievers have high teacher pupil relationship than low achievers.

**(b) Gender of Teachers**

Comparison of Teacher-Pupil Relationship and Biology Achievement between the students taught by female and male teachers.

The means and standard deviation of the Teacher-Pupil Relationship and Biology achievement between the students taught by female and male teachers were found out and test of significance of difference between these scores were analysed. The statistical test of significance of the mean scores of Teacher-Pupil Relationship and Biology Achievement are presented table 22.

**TABLE 22**

**Data and Result of the test of significance of Difference**

**in Teacher-Pupil Relationship between female and male teacher**

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| Sl. No. | Category | N | Mean | SD | t value | Level of significance |
| 1 | No. of students taught by Female teachers | 398 | 290.99 | 48.90 | 0.48 | NS |
| 2 | No. of students taught by Male teachers | 402 | 289.22 | 54.87 |

The table 23 indicates that the mean score of Teacher-Pupil Relationship for the female and male teachers are 290.99 and 289.22 respectively. The standard deviation obtained for the female and male teachers are 48.90 and 54.87. The t value calculated is 0.48, which is not significant and either at 0.01 level or 0.05 level of significance because this value is less than the tabled value of 0.01 level of significance 2.58 and 0.05 level of significance 1.96. So, the mean difference in Teacher-Pupil Relationship for female and male teachers are not found statistically.

**Discussion**

The mean scores of Teacher-Pupil Relationship of students taught by female and male teachers are calculated. It is found that there is no significant difference in Teacher-Pupil Relationship between female and male teachers.

**(c) Gender of Students**

Comparison of Teacher-Pupil Relationship and Biology Achievement between boys and girls students.

The means and standard deviations of the Teacher-Pupil Relationship and Biology Achievement of boys and girls of the total sample were found out and test of significance of difference between these scores were calculated. The statistical data used and the result of the test of significance of the mean scores of Teacher-Pupil Relationship and Biology achievement are present in table 23.

**TABLE 23**

**Date and Result of the test of significance of**

**Difference in Teacher-Pupil Relationship between girls and boys**

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| Sl. No. | Category | N | Mean | SD | t value | Level of significance |
| 1 | Girls | 394 | 296.55 | 53.54 | 3.48 | 0.01 |
| 2 | Boys | 406 | 283.85 | 49.65 |

The table 23 indicates that the mean score of Teacher- Pupil Relationship for the girls students and boys students are 296.55 and 283.85 respectively. The standard deviation obtained for girls and boys are 53.54 and 49.65. The t value calculated is 3.48, which is greater than the table value 2.58 at 0.01 level of significance. Thus it can be found that there is exists significant difference between the Teacher-Pupil Relationship of girls and boys student.

**Discussion**

The analysis of the above data shows that there exists significant differences between the Teacher-Pupil Relationship of girls and boys students. Hence it can be concluded that the mean value further indicates that girls students have high Teacher-Pupil Relationship than boys students.

**(d) Locale of the school**

Comparison of Teacher-Pupil Relationship and Biology Achievement between the students of urban and rural schools.

The means and standard deviations of the Teacher-Pupil Relationship and Biology Achievement between the students of rural and urban schools were found out and test of significance of difference between these scores were calculated. The statistical data used and the result of the test of significance of the mean scores of Teacher-Pupil Relationship and Biology Achievement are presented table 24.

**TABLE 24**

**Data and Result of the test of**

**significance of Difference in Teacher-Pupil**

**Relationship between students of Rural and Urban schools**

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| Sl. No. | Category | N | Mean | SD | t value | Level of significance |
| 1 | Rural Schools | 452 | 296.04 | 54.47 | 3.81 | 0.01 |
| 2 | Urban schools | 348 | 282.32 | 47.45 |

The table 24 indicates that the mean scores of Teacher-Pupil Relationship for the rural and urban school students are 296.09 and 282.32 respectively. The standard deviation obtained for rural and urban schools are 54.47 and 47.45 . The t value calculated is 3.81, which is greater than the table value 2.58 at 0.01 level of significance. Thus it can be found that there exist significant differences between the Teacher-Pupil Relationship of rural and urban students.

**Discussion**

The analysis of above data shows that there exist significant difference in teacher pupil relationship of rural and urban students. The mean value further indicates that rural pupils have high Teacher-Pupil Relationship than urban pupils

**(e) Type of Management of School**

Comparison of Teacher-Pupil Relationship and Biology Achievement between different type of management of schools such as Government, aided and unaided.

**(i) Comparison of Teacher-Pupil Relationship and Biology Achievement between Government and aided school students**

The mean and standard deviation of the Teacher-Pupil Relationship and Biology achievement between Government and aided school students were found out and test of significance of difference between these score were calculated. The statistical data used and the result of the test of significance of the mean scores of Teacher-Pupil Relationship and Biology Achievement are presented table 25.

**TABLE 25**

**Date and Result of the test of**

**significance of Difference in Teacher-Pupil**

**Relationship between Aided and Government school students**

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| Sl. No. | Category | N | Mean | SD | t value | Level of significance |
| 1 | Aided school students | 307 | 291.91 | 44.39 | 3.01 | 0.01 |
| 2 | Government school students | 297 | 280.36 | 49.58 |

The table 25 indicates that the mean score of the Teacher-Pupil Relationship for the Aided school students and Government school students are 291.91 and 280.36 respectively. The obtained standard deviation of Government school students and aided school students are 44.39 and 49.58. The calculated 't' value is 3.01, which is greater than the table value 2.58 at 0.01 level of significance. Thus it can be found that there exist significant difference between the Teacher-Pupil Relationship of aided and government school students.

**Discussion**

The analysis of above data shows that there exist significant difference between the Teacher-Pupil Relationship of aided and government school students. Hence it can be concluded that the aided and government school students are almost unequal in Teacher-Pupil Relationship. The mean value further indicates that the aided school students have high teacher pupil relationship than Government school students.

**(ii) Comparison of Teacher-Pupil Relationship and Biology Achievement between unaided and government school students**

The means and standard deviation of the Teacher-Pupil Relationship and Biology Achievement between unaided and government school students were found out and test of significance of difference between these scores were analysed. The statistical data used and the result of the test of significance of the mean scores of Teacher-Pupil Relationship and Biology Achievement are present in the table 26.

**TABLE 26**

**Data and Result of the test of**

**significance of difference in Teacher-Pupil**

**Relationship between Unaided and Government school student**

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| Sl. No. | Category | N | Mean | SD | t value | Level of significance |
| 1 | Unaided schools | 196 | 302.03 | 62.82 | 4.07 | 0.01 |
| 2 | Government schools | 297 | 280.36 | 49.58 |

The table 26 indicates that the mean score of the Teacher-Pupil Relationship for the unaided and government school students are 302.03 and 280.36 respectively. The obtained standard deviation of unaided and government school students are 62.82 and 49.58. The calculated t value is 4.07, which is greater than the table value 2.58 at 0.01 level of significance. Thus it can be found that there exist significant difference between the Teacher-Pupil Relationship of unaided and government school students

**Discussion**

The analysis of above data shows that there exist significant difference between the Teacher-Pupil Relationship of unaided and government school students. hence it can be concluded that the unaided and government school students are almost unequal in teacher pupil relationship the mean value further indicates that the unaided school students have high Teacher-Pupil Relationship than the Government school students.

**(iii) Comparison of Teacher-Pupil Relationship and Biology Achievement between Unaided and Aided school students**

The means and standard deviation of the Teacher-Pupil Relationship and Biology Achievement between Unaided and Aided school students.

The means and standard deviation of the Teacher-Pupil Relationship and Biology Achievement between Unaided and Aided school students were found out and test of significance of difference between these scores were calculated. The statistical data used and the result of the test of significance of the mean scores of Teacher-Pupil Relationship and Biology Achievement are presented in the table 27.

**TABLE 27**

**Date and Result of the test of**

**significance of Difference in Teacher-Pupil**

**Relationship between Unaided and Aided school students**

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| Sl. No. | Category | N | Mean | SD | t value | Level of significance |
| 1 | Unaided | 196 | 302.03 | 62.82 | 1.96 | 0.05 |
| 2 | Aided | 307 | 291.91 | 44.39 |

The table 27 indicates that the mean score of the Teacher-Pupil Relationship for the unaided and aided school students are 302.03 and 291.99 respectively. The obtained standard deviation of unaided and aided school students are 62.82 and 44.39. The calculated t value is 1.96. The table value for 1.96 significant at 0.05 level, since the obtained t value is same as the table value. The mean difference of Teacher-Pupil Relationship for the unaided and aided school students are found statistically significant.

**Discussion**

The mean score of the Teacher-Pupil Relationship of unaided and aided school students are analysed. It is found that there is significant difference exist between Teacher-Pupil Relationship of unaided and aided school students. The mean value further indicate that the unaided school students have high Teacher-Pupil Relationship than the aided school students.

**(e) Type of School**

Comparison of Teacher-Pupil Relationship and Biology Achievement between different type of schools such as boys only girls only and mixed schools.

**(i) Comparison of Teacher-Pupil Relationship and Biology Achievement between boys only school students and girls only school students**

The mean and standard deviation of the Teacher-Pupil Relationship and Biology Achievement between boys only school students and girls only school students were found out and test of significance of difference between these scores were calculated. The statistical data used and the result of the test of significance of the mean scores of Teacher-Pupil Relationship and Biology Achievement are presented in the table 28.

**TABLE 28**

**Data and Result of the test of**

**significance of Difference in Teacher-Pupil**

**Relationship between boys only and girls only school students**

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| Sl. No. | Category | N | Mean | SD | t value | Level of significance |
| 1 | Boys only | 165 | 310.09 | 55.23 | 3.55 | 0.01 |
| 2 | Girls only | 160 | 288.48 | 54.41 |

The table 29 indicates that the mean score of the Teacher-Pupil Relation for the boys only and girls only school students are 310.09 and 288.48 respectively. The obtained standard deviation of boys only and girls only school students are 55.23 and 54.41. The calculated t value is 3.55 which is greater than the tabled value 2.58 at 0.01 level of significance. Thus it can be found that there exist significant difference between the Teacher-Pupil Relationship of boys only and girls only school students.

**Discussion**

The analysis of above data shows that there exist significant difference between the Teacher-Pupil Relationship of boys only and girls only school students. hence it can be concluded that the boys only and girls only school students are almost unequal in Teacher-Pupil Relationship. The mean value further indicated that the boys only school students have high teacher pupil relation than the girls only school students.

**(ii) Comparison of Teacher-Pupil Relationship and Biology Achievement between girls only school students and mixed school students**

The mean and standard deviation of the Teacher-Pupil Relationship and Biology Achievement between girls only school students and mixed school students were found out and test of significance of difference between these scores were analysed. The statistical data used and the result of the test of significance of the mean scores of Teacher-Pupil Relationship and Biology Achievement are presented in the table 29.

**TABLE 29**

**Data and Result of the test of**

**significance of Difference of Teacher-Pupil**

**Relationship between girls only and mixed school students**

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| Sl. No. | Category | N | Mean | SD | t value | Level of significance |
| 1 | Girls only school | 160 | 288.48 | 54.41 | 0.99 | NS |
| 2 | Mixed school | 475 | 283.71 | 48.18 |

The table 28 indicates that the mean score of the Teacher-Pupil Relationship for the girls only school students and mixed school student are 288.48 and 283.71 respectively. The obtained standard deviation of girls only school students and mixed school students are 54.41 and 48.18. The calculated t value is .99, which is less than the tabled value is 1.96 at 0.05 level of significance. Thus it can be found that there is no significant difference between the teacher pupil relation of girls only and mixed school students.

**Discussion**

The mean scores of Teacher-Pupil Relationship of girls only school students and mixed school students are analysed. It found that there is no significant difference between Teacher-Pupil Relationship of girls only school students and mixed school students.

**(iii) Comparison of Teacher-Pupil Relationship and Biology Achievement between boys only school students and mixed school students**

The mean and standard deviation of the Teacher-Pupil Relationship and Biology Achievement between boys only school students and mixed school students were found out and test of significance of difference between these scores were analysed. The statistical data used and the result of the test of significance of the mean scores of Teacher-Pupil Relationship and Biology achievement are presented in the table 30.

**TABLE 30**

**Data and Result of the test of**

**significance of Difference in Teacher-Pupil**

**Relationship between boys only and mixed school students**

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| Sl. No. | Category | N | Mean | SD | t value | Level of significance |
| 1 | Boys only school | 165 | 310.09 | 55.23 | 5.46 | 0.01 |
| 2 | Mixed school | 475 | 283.71 | 48.18 |

The table 30 indicates that the mean score of the Teacher-Pupil Relationship for the boys only and mixed school students are 310.09 and 283.71 respectively. The obtained standard deviation of boys only and mixed school students are 55.23 and 48.18. The calculated t value is 5.46, which is greater than the tabled value 2.58 at 0.01 level of significance. Thus it can be found that there exist significant difference between the Teacher-Pupil Relationship of boys only and mixed school students.

**Discussion**

The analysis of above data shows that there exist significant difference between the Teacher-Pupil Relationship of boys only and mixed school students. Hence it can be concluded that the boys only and mixed school students are almost unequal in Teacher-Pupil Relationship. The mean value further indicates that the boys only school students have high Teacher-Pupil Relationship than mixed school students.

**SUMMARY OF PROCEDURE,   
CONCLUSIONS AND SUGGESTIONS**

This chapter highlights the significant stages of the study, the important findings, their educational implications and suggestions for further research.

**RESTATEMENT OF THE PROBLEM**

The study was entitled as "INFLUENCE OF TEACHER-PUPIL RELATIONSHIP ON ACADEMIC ACHIEVEMENT IN BIOLOGY AMONG SECONDARY SCHOOL STUDENTS IN MALAPPURAM DISTRICT".

**VARIABLES**

The variables selected for the study were the following.

**Dependent Variable**

Achievement in Biology selected ad dependent variable.

**Independent Variable**

Teacher-Pupil Relationship has been selected as independent variable.

**OBJECTIVES**

I. To find out Teacher-Pupil Relationship on Academic Achievement in Biology among secondary school students.

II. To find out the relationship between Teacher-Pupil Relationship and Academic Achievement in Biology among secondary school students, Based on following variables.

1. Levels of Achievement

2. Gender of the teachers

3. Gender of the students

4. Locale of the schools

5. Type of schools management.

6. Type of schools.

**HYPOTHESIS**

I. There exist significant relationship between Teacher-Pupil Relationship and Academic Achievement in Biology.

II. There exist significant difference in relationship between Teacher-Pupil Relationship and Academic Achievement in Biology for the relevant sample based on,

1. Levels of Achievement

2. Gender of the teachers

3. Gender of the students

4. Locale of the schools

5. Type of schools management.

6. Type of schools.

**METHODOLOGY**

Methodology deals with the precise description of sample used for these study, tools and statistical techniques used.

**Sample**

The study was conducted on a sample of 800 IXth standard students from Malappuram district and their respective biology teachers. Stratified random sampling technique used for the sample selection.

**Tool used**

1. Teacher-Pupil relationship scale – Pupil version and teacher version (Developed and standardized by the investigator   
 in collaboration with her supervising teacher)

2. Achievement test in Biology

(Developed by investigator in collaboration with   
 her supervising teacher and expert)

**Statistical Techniques Used**

1. Pearson's Product Moment Coefficient of Correlation (r)

2. Test of Significance (t)

**MAJOR FINDINGS**

The Major findings of the study are the following.

1. There exists substantial relationship between Teacher-Pupil Relationship and achievement of secondary school students (r=0.32).

2. There exist substantial or marked relationship between teacher pupil relationship and achievement of urban students (r=0.37).

3. There exist substantial relationship between teacher pupil relationship and achievement of rural students (r=0.29).

4. There is substantial relationship between teacher-pupil relationship and achievement of male students (r=0.35).

5. There exist substantial relationship between Teacher-Pupil Relationship and achievement of female students (r=0.29).

6. There is substantial or marked relationship between Teacher-Pupil Relationship and achievement of male teacher (r=0.33).

7. There is exist substantial relationship between Teacher-Pupil Relationship and achievement of female teachers (r=0.27)

8. There is substantial relationship between Teacher-Pupil Relationship and achievement of Government school students (r=0.41).

9. There exist substantial or marked relationship between Teacher-Pupil Relationship and achievement of aided school students (r=0.36).

10. There is no substantial or marked relationship between Teacher-Pupil Relationship and achievement of unaided school student (r=0.14).

11. There is significant or marked relationship between Teacher-Pupil Relationship and achievement of boys only school students (r=0.33).

12. There is substantial relationship between Teacher-Pupil Relationship and achievement of girls only school students (r=0.36).

13. There is substantial or marked relationship between Teacher-Pupil Relationship and achievement of co-educational school students (r=0.31).

14. There is significant difference exist in Teacher-Pupil Relationship between high achievers and low achievers ('t' value is 8.62). High achievers have high teacher-pupil relationship than low achievers.

15. There is significant difference in Teacher-Pupil Relationship between high achievers and average achievers ('t' value is 2.87). High achievers have high teacher-pupil relationship than average achievers.

16. There is significant difference exist in Teacher-Pupil Relationship between average achievers and low achievers ('t' value = 8.40). Average achievers have high teach-pupil relationship than low achievers.

17. There is no significant difference in Teacher-Pupil Relationship between the students taught by male and female teacher ('t' value = 0.48)

18. There is significant difference in Teacher-Pupil Relationship between girls and boys in whole sample ('t' value = 3.48). Girls students have high teacher-pupil relationship than boys students.

19. There is significant difference in Teacher-Pupil Relationship between students of urban and rural schools ('t' value = 3.81). Rural students have high teacher-pupil relationship than urban students.

20. There is significant difference in Teacher-Pupil Relationship between Government and aided school students ('t' value = 3.01). Aided school students have high teacher-pupil relationship than Govt. school students.

21. There is significant difference in Teacher-Pupil Relationship between government and unaided school student ('t' value = 4.07). Unaided school students have high teacher-pupil relationship than Govt. school students.

22. There is significant difference in Teacher-Pupil Relationship between aided and unaided school students ('t' value = 1.96). Unaided school students have high teacher-pupil relationship than aided school students.

23. There is significant difference in Teacher-Pupil Relationship between girls only and boys only school students ('t' value= 3.55). Boys only school students have high teacher-pupil relationship than girls only school students.

24. There is no significant difference in Teacher-Pupil Relationship between girls only and mixed school students ('t' value = 0.99).

25. There is significant difference in Teacher-Pupil Relationship between boys only and mixed school students ('t' value = 5.46). Boys only school students have high teacher-pupil relationship than mixed school students.

**TENABILITY OF HYPOTHESIS**

The tenability of the hypothesis is examined in the light of the above findings.

Hypothesis 1. states that significant relation exists between Teacher-Pupil Relationship and Academic Achievement in Biology. The finding reveal that there exist substantial relationship between teacher-pupil relationship and achievement of whole sample of secondary school student (r=0.32) so hypothesis fully substantiated.

Hypothesis II(1) states that there exists significant relationship between Teacher-Pupil Relationship and Academic Achievement in Biology, for high achievers, average achievers and low achievers. The findings reveals that there exist a substantial difference in relationship between Teacher-Pupil Relationship and achievement in Biology of high achievers, average achievers and low achievers. There for hypothesis II (1) is accepted.

Hypothesis II (2) states that there exist significant difference in relationship between Teacher-Pupil Relationship and academic achievement in biology based on the gender of teachers. The findings reveal that there is no significant difference exist in teacher pupil relationship between male and female teachers, so the hypothesis II (2) rejected.

Hypothesis II(3) states that there exist significant difference in relationship between teacher pupil relationship and achievement in biology of boys and girls. The findings reveal that there is substantial difference in Teacher-Pupil Relationship and achievement of boys and girls students. There for hypothesis II (3) is accepted.

Hypothesis II (4) states that there exist significant difference in relation between Teacher-Pupil Relationship and achievement of rural and urban students. The findings reveals that there is substantial difference in teacher pupil relationship and achievement of rural and urban students. There fore hypothesis II (4) accepted

Hypothesis II (5) states that there exist significant difference in relationship between Teacher-Pupil Relationship and achievement in Biology for government aided and unaided school students. The findings reveal that there is substantial difference between teacher pupil relationship and achievement of Government and aided school students. But in the case of unaided school students there is negligible difference existed. So, the hypothesis II (4) is partially accepted.

Hypothesis II(6) states that there exist significant difference in relationship between Teacher-Pupil Relationship and achievement in Biology for boys only, girls only and mixed school students. The findings reveals that there is substantial difference between teacher-pupil relationship and academic achievement of boys only, girls only and mixed school students. But in the case of comparison of girls only school students with the mixed school students there is no significant difference. So the hypothesis II (6) is partially accepted.

**CONCLUSION**

Teacher-Pupil Relationship and achievement of secondary school students are analysed. Result shows that there is substantial relationship between Teacher-Pupil Relationship and achievement of secondary school students. In the case of levels of achievement the high achievers are more Teacher-Pupil Relationship than average and low achievers. In the case of unaided school the negligible difference existed in Teacher-Pupil Relationship. In the case of teacher gender difference and type of school (girls only and mixed school) there is no significant difference between the teacher pupil relationship and biology achievement.

**EDUCATIONAL IMPLICATION**

Studies on Teacher-Pupil Relationship and biology achievement of secondary school students are equally important. Because both these factors are related and have great influence on students interaction, behaviour and academic achievement. Teachers is referred to as the architect of the future generation. The teacher pupil relationship may be able to rise the quality of teachers role and increase the students commitments. Successful teachers are very helpful in enhancing the level of achievement of the students and also their over all educational standard. There will be so many factors which effect the Teacher-Pupil Relationship of students. If the factors are unidentified steps can be taken to manipulate the factors to improve the Teacher-Pupil Relationship and achievement.

The present study was with such an intention and the major objectives was to find out the teacher pupil relationship of secondary school students and the extend of relationship between them. It also find out the significant relationship of the variable; levels of achievement, teachers gender, gender of students, locale, type of management, and type of school. Major findings of the study helped the investigator to give following suggestions in order to improve teacher pupil relationship and achievement of students study reveals that there exist substantial relationship between teacher-pupil relationship and achievement of secondary school students.

By the help of this study researcher identified a set of positive relationship between the teacher and the pupil. The key features underlying the positive relationship are mutual respect; shared responsibility for learning and mutual commitment to goals; effective communication and feed back; co:operation and willingness to negotiate conflicts and a sense of security in the classroom. One may provide a number of guidelines under each category for strengthening positive relationship in teaching and learning. The key of all these features, however, is the recognition of the reciprocal nature of the teaching learning process. Both parties must participate, both must learn to trust each other. But the nature of the school and students past interaction with faculty may require the teacher to take the first step toward that mutuality and possibly to continue to lead the way until the students are sufficiently confident to become full partners in the process.

The study found that Teacher-Pupil Relationship influence the achievement in Biology and also the total achievement of students. In order to improve the academic achievements of average and low achievers teachers should take initiative to strengthen the Teacher-Pupil Relationship while providing more personal attention.

**SUGGESTION FOR IMPROVEMENT OF BETTER TEACHER-PUPIL RELATIONSHIP**

A better relationship among students are given below.

1. The best possible way to have a good communication with teachers is to talk freely to them and discuss problems.

2. Problem regarding group assignment can be very easily solved by an adjustment between the above and below average students by forming mixed groups.

3. Below average's should try to sit in front and avoid fear and hesitation. Teacher should pay attention to both the front seaters as well as the back seaters.

4. Teachers are supposed to take some time out of the routine class and talk freely to all the students-about their problems, their experience in the school, and invite the students for their suggestions and ideas. It is the duty of teachers to give equal status to all the students of the class. Teachers are supposed to spend some time with student from outside, have more contacts, correct, praise, encourage, socialize and joke with all students.

5. To the low achievers, teacher should always give more care, help, sympathy, and give more space to them to come forward and work. They should also give them more challenging exercises, so that they are motivated and encouraged to show their skills, abilities and talents.

6. Teacher should try to reduce punishment and to give more importance and participation in extracurricular and co curricular activities with the students.

7. Students who are introverts should try to come forward, and teachers should also help them to do so.

8. Teacher should use student friendly method in their teaching process.

9. Devote more time to low achievers for improving their achievement.

10. Government School teachers should take more initiative in development of Teacher-Pupil Relationship.

11. Teachers should take to develop good relationship without showing discrimination on the basis of girls and boys students.

**SUGGESTIONS FOR FURTHER RESEARCH**

The findings of the study and the limitations encountered in the present study helped the investigator to suggest the following for further research.

1. Since the area of teacher pupil relationship and achievement in very vast, the study can be conducted by including more components of Teacher-Pupil Relationship.

2. Study can be replicated at higher levels that in higher secondary and college level.

3. A study can be conducted to find out the Teacher-Pupil Relationship and achievement of B.Ed students.

4. In this study experimental study is more suitable than descriptive survey.

5. Study can be replicated by increase the teachers sample size.

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**S U M M A R Y**

Education makes a man self reliant and self sufficient. Education aims for the harmonious development of the individual potentialities, which when given the proper environment at the appropriate time will blossom to their maximum. Education is considered as the most suitable type of environment given for this sake. The educative event is an intervention in the living experience of persons and this intervention is designed to change the meaning of experience for these human beings. The whole exercise of education revolves round the process of learning and teaching. Understanding the nature of the child and environment in which the activity of education is taking place is the first requisite of teaching-learning programme. Teaching- learning process is the achievement of shared meaning. The mutual un concealment in teaching requires reciprocity of shared responsibilities. Each student is responsible for his own learning. As the student intelligently persue his responsibilities for learning, he grows in power of choice, in power of action and in flexibility of thinking and the teacher's responsibility changes of facilitation of learning.

According to "Pestalozzi" 'Education is natural harmonious and progressive development of man's innate powers'.

Gandhiji says that "By education I mean an all-round drawing out of the best in the child and man-body mind and spirit".

Education is a triangular process. It involve the inter-play of the educator, the educand and the social forces. The teacher tries to modify the personality of the child in the light of the needs of the individual and the society to which he belongs.

In ancient Indian educational system the role of teacher was very narrow and the teacher was a dominated personality in educational system. In this period all decision related to the educational process made by the teacher, and the pupil was required to serve their teacher compulsorily.

In modern educational system the teacher is an essential factor. The role of teacher is that of a friend, motivator, philosopher and a guide. According to John Deway 'Teacher provide the child scope for active participation so that he learns to create new value for future'.

The quality of a nation depends upon the quality of its citizens. The quality of citizens depends upon the quality of their education, which in turn depends largely upon the quality of their teacher. Teaching is a series of events where in the teacher attempts to bring about desirable change in the behaviour of the student. In her/her attempt towards behaviour modification, the teacher influence the teaching learning process by adopting various behavioural patterns. Teacher's classroom behaviour plays a vital role in strengthening the teacher-pupil communication and teacher-pupil relationship in the classroom. The teacher is the back bone of the educational system, the maker of mankind and architect of society.

According to Kothari Commission (1964-66). "The different factors which influence the quality of education and its contribution to national development the quality competence and character of teacher are undoubtedly significant". National Policy of Education (1989) points out that status of teacher react the socio cultural ethos of society.

Teaching simply cannot happen without teachers entering in to relation with their students. The teacher's success in facilitating learning is directly related to the quality of that relationship. Relationship are as essential to teaching as the flour of cake. The reason that we often fail to appreciate the importance of relationship is that we have inherited misconceptions about teaching, about learning and about the nature of mind. For thousands of years, people have theorised about the mind and about learning and have drawn conclusions about the nature of teaching. The earliest concepts we have of mind are of psyche, a Greek word for breath, because of the observed relationship breathing and life. Later, during the age of machines, the mind was conceived of as a complex machine and the metaphors of teaching changed activity. When students ground way at problems we could hear their gears turning, unless, of course, they were a little rusty up there. We drilled students to sharpen their minds as we would sharpen a tool. Now we are equally certain that the mind is a kind of computer and teachers task is to program it. Teaching is inherently interactive because it depends on making connection with an active growing mind.

But what does interaction have to do with relationship? The relationship between teachers and learners can be viewed as a set of fillers; interpretive screens or expectations that determine the effectiveness of interactions between the teachers and the students. Effective teachers form relationship that are trustful, open and secure, that involve a minimum of control, are co-operative and are conducted in a reciprocal, interactive manner. They share control with students and encourage interactions that are determined by mutual agreement within such relationships learners are willing to disclose their lack of understanding rather than hide it from their teachers; learners are more attentive, ask more questions and are more actively engaged. That will help to develop independent thinking and self expression. Thus, better the relationship, better the interaction and better will be the learning .

There is considerable evidence that students of different achievement level have very different kind of interaction with their teachers. Hoehn (1954) found that high achieving students enjoyed more promotive and supportive contract from their teacher, while low achievers had a greater proportion of teachers contact involving conflict with the teacher or-domination and direction by the teacher. De Groat and Thompson (1949) found that high achievers received more praise, while lower achievers received a disproportionate share of disapproval.

**NEED AND SIGNIFICANCE**

Education is one of the field affecting the physical and mental growth of the individual. The rapid change in the life demands the rapid change in the education. Educational objectives are no longer, limited to 3R's-Reading writing and Arithmetic. They encompass self direction skills, positive self concepts, thinking skills, social skills, attitudinal changes and so on.

A teacher help the student in discovering new approaches and is exited about the potential development in his field. It is agreed by every one that the quality of education depends on the quality of teachers and their relationship with students. Improvement in educational standards depends mainly an effective teacher-pupil relationship, which again depends on both the teacher and students behaviour. A good relationship among the teacher and the students is an important factor leading to effective teaching and learning.

According to researchers, Daly and Suite (1981-82) teachers judge childrens seated in the front of the classroom more positively than those in the back. Teachers who were more anxious about communicating with their students, were more likely to differentiate among students on the basis of the seat they had in the class.

One can say that teaching and learning in something more than the efficient delivery and receiving of thoroughly prepared lecture. 'Teaching is basically an interpersonal relationship, which with its proper techniques and devices helps to reduce or control anxiety and promote learning' – Claims Stavsky. Thus a good relationship among the teacher and the students is an important factor leading to effective teaching and learning.

Democracy demands conidial and democratic relationship in the classroom by the student and teacher and make the classroom living experience of democratic setup. Therefore the study of teacher and his/her relationship with student is of almost important.

**STATEMENT OF THE PROBLEM**

The problem of the study is entitled as "INFLUENCE OF TEACHER-PUPIL RELATIONSHIP ON ACADEMIC ACHIEVEMENT IN BIOLOGY OF SECONDARY SCHOOL STUDENTS IN MALAPPURAM DISTRICT".

**DEFINITION OF KEY TERMS**

**Teacher-Pupil Relationship**

Teacher-pupil relationship refers to the extent of all educational and personal relationship that exist between the teacher and pupil, where the teacher motivate the pupils in educational matters and infers in all their personal problems.

**Biology Achievement**

Biology achievement refers to tangible accomplishment or proficiency of performance in biology as measured using a standardised test. In the present study Biology achievement is the mark obtained by the students in the biology achievement test conducted by the investigator.

**Secondary School Students**

In this study 9th standard students are taken as secondary school students.

**VARIABLES OF THE STUDY**

**Dependent Variable**

Achievement in Biology has been selected as the dependent variable.

**Independent Variable**

Teacher-Pupil relationship has been selected as the independent variable.

**OBJECTIVES OF THE STUDY**

I. To find out the influence of Teacher-Pupil Relationship on Academic Achievement in Biology of Secondary School Students.

II. To find out the relationship between Teacher-Pupil Relationship and Academic Achievement in Biology of Secondary School Students. Based on following variables.

(1) Levels of Achievement

(2) Gender of Teacher

(3) Gender of Students

(4) Locale of the School

(5) Types of Management of School

(6) Type of School.

**HYPOTHESES OF THE STUDY**

I**.** There exist significant relation between teacher-pupil relationship and academic achievement in biology.

II. There exist significant differences in relationship between teacher-pupil relationship and academic achievement in biology for the relevant subsample based of

1. Levels of Achievement

2. Gender of Teachers

3. Gender of Students

4. Locales of the School

5. Types of management of school

6. Types of School.

**METHODOLOGY**

**Sample**

**Population of the study**

The largest population for the study is the secondary school pupils. However the accessible population was the student of standard IX.

**Size of the sample**

A good sample must be as nearly representative of the entire population as possible. A sample of 500 is considered by Krech and Cruchfield (1968) as a optimum size in descriptive studies which would give reasonable results and would keep the error with in the limit of five percent level.

The sample for the present study was fixed to be about 800 assuming that the strength of pupils in each class division in standard IX will approximately be 40 and their respective biology teachers.

**Tools**

Teacher-Pupil relationship scale: (Pupil Version, Teacher Version)

Achievement test in Biology

**Statistical Techniques**

1. Pearson's Product Moment Coefficient of Correlation (r)

2. Test of significance of difference Between mean for different categories (t test)

**SCOPE AND LIMITATION OF STUDY**

In the learning process of the students the teachers have an unavoidable and main role. So the creation of a good or a positive relationship between teachers and the students are very essential. The sincere, good interrelationship between the teachers and pupils are make an intimacy towards the teachers among the students. This intimacy also promote (an intimacy) towards the subject among students. The likes towards the subject increase the interest in the subject. As a result of these the whole academic achievement is improved. So, the investigator understood that the teacher-pupil relationship and the academic achievement is very closely interrelated. And she think that it is one of the good area for the conduct of a research study.

This study has been undertaken with the main objective to find the nature and extent of influence of Teacher-Pupil Relationship on Academic Achievement in Biology of secondary school students of Kerala. The study is conducted on a representative stratified sample of 800 pupils of standard IX belonging to 15 schools of Malappuram district. In setting the sample, the representation was given to factor like Level of achievement, Gender, Locale, Type of Management and Type of School.

The selection of variable 'Teacher-Pupil Relationship' was on the basis of the possible relation of the variable with 'Academic Achievement in Biology'.

Even though so much precautions were taken to make the study as accurate as possible, these are certain limitation also some of these are listed below.

1. Even though the study is aimed for secondary school students, due to practical reasons the investigator has considered standard IX students are the accessible population and hence as representative sample was selected from standard IX students only.

2. Study was conducted on a sample selected from the student of standard of IX of Malappuram district. However more generalisable results could have been obtained from the study, if stratified sample selected from the whole state was used.

3. Even though, Academic Achievement in Biology is affected by several other factors but only Teacher-Pupil Relationship are the variable taken for study.

4. No attempt was made to control the effect of other variable on Achievement in Biology.

5. The study was limited to Biology only.

6. Intention of the investigation was to study the influence of Teacher-pupil relationship on Academic Achievement. Due to practical feasibility it was limited to Biology Achievement.

**MAJOR FINDINGS**

The Major findings of the study are the following.

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7. There is exist substantial relationship between Teacher-Pupil Relationship and achievement of female teachers (r=0.27)

8. There is substantial relationship between Teacher-Pupil Relationship and achievement of Government school students (r=.041).

9. There exist substantial or marked relationship between Teacher-Pupil Relationship and achievement of aided school students (r=.036).

10. There is no substantial or marked relationship between Teacher-Pupil Relationship and achievement of unaided school student (r=0.14).

11. There is significant or marked relationship between Teacher-Pupil Relationship and achievement of boys only school students (r=0.33).

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19. There is significant difference in Teacher-Pupil Relationship between students of urban and rural schools ('t' value = -3.81). Rural students have high teacher-pupil relationship than urban students.

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21. There is significant difference in Teacher-Pupil Relationship between government and unaided school student ('t' value = -4.07). Unaided school students have high teacher-pupil relationship than Govt. school students.

22. There is significant difference in Teacher-Pupil Relationship between aided and unaided school students ('t' value = -1.96). Unaided school students have high teacher-pupil relationship than aided school students.

23. There is significant difference in Teacher-Pupil Relationship between girls only and boys only school students ('t' value= -3.55). Boys only school students have high teacher-pupil relationship than girls only school students.

24. There is no significant difference in Teacher-Pupil Relationship between girls only and mixed school students ('t' value = 0.99).

25. There is significant difference in Teacher-Pupil Relationship between boys only and mixed school students ('t' value = 5.46). Boys only school students have high teacher-pupil relationship than mixed school students.

**TENABILITY OF HYPOTHESIS**

The tenability of the hypothesis is examined in the light of the above findings.

Hypothesis 1. states that significant relation exists between Teacher-Pupil Relationship and Academic Achievement in Biology. The finding reveal that there exist substantial relationship between teacher-pupil relationship and achievement of whole sample of secondary school student (r=0.3248) so hypothesis fully substantiated.

Hypothesis II(1) states that there exists significant relationship between Teacher-Pupil Relationship and Academic Achievement in Biology, for high achievers, average achievers and low achievers. The findings reveals that there exist a substantial difference in relationship between Teacher-Pupil Relationship and achievement in Biology of high achievers, average achievers and low achievers. There for hypothesis II (1) is accepted.

Hypothesis II (2) states that there exist significant difference in relationship between Teacher-Pupil Relationship and academic achievement in biology based on the gender of teachers. The findings reveal that there is no significant difference exist in teacher pupil relationship between male and female teachers, so the hypothesis II (2) rejected.

Hypothesis II(3) states that there exist significant difference in relationship between teacher pupil relationship and achievement in biology of boys and girls. The findings reveal that there is substantial difference in Teacher-Pupil Relationship and achievement of boys and girls students. There for hypothesis II (3) is accepted.

Hypothesis II (4) states that there exist significant difference in relation between Teacher-Pupil Relationship and achievement of rural and urban students. The findings reveals that there is substantial difference in teacher pupil relationship and achievement of rural and urban students. There fore hypothesis II (4) accepted

Hypothesis II (5) states that there exist significant difference in relationship between Teacher-Pupil Relationship and achievement in Biology for government aided and unaided school students. The findings reveal that there is substantial difference between teacher pupil relationship and achievement of Government and aided school students. But in the case of unaided school students there is negligible difference existed. So, the hypothesis II (4) is partially accepted.

Hypothesis II(6) states that there exist significant difference in relationship between Teacher-Pupil Relationship and achievement in Biology for boys only, girls only and mixed school students. The findings reveals that there is substantial difference between teacher-pupil relationship and academic achievement of boys only, girls only and mixed school students. But in the case of comparison of girls only school students with the mixed school students there is no significant difference. So the hypothesis II (6) is partially accepted.

**CONCLUSION**

Teacher-Pupil Relationship and achievement of secondary school students are analysed. Result shows that there is substantial relationship between Teacher-Pupil Relationship and achievement of secondary school students. In the case of levels of achievement the high achievers are more Teacher-Pupil Relationship than average and low achievers. In the case of unaided school the negligible difference existed in Teacher-Pupil Relationship. In the case of teacher gender difference and type of school (girls only and mixed school) there is no significant difference between the teacher pupil relationship and biology achievement.

**EDUCATIONAL IMPLICATION**

Studies on Teacher-Pupil Relationship and biology achievement of secondary school students are equally important. Because both these factors are related and have great influence on students interaction, behaviour and academic achievement. Teachers is referred to as the architect of the future generation. The teacher pupil relationship may be able to rise the quality of teachers role and increase the students commitments. Successful teachers are very helpful in enhancing the level of achievement of the students and also their over all educational standard. There will be so many factors which effect the Teacher-Pupil Relationship of students. If the factors are unidentified steps can be taken to manipulate the factors to improve the Teacher-Pupil Relationship and achievement.

The present study was with such an intention and the major objectives was to find out the teacher pupil relationship of secondary school students and the extend of relationship between them. It also find out the significant relationship of the variable; levels of achievement, teachers gender, gender of students, locale, type of management, and type of school. Major findings of the study helped the investigator to give following suggestions in order to improve teacher pupil relationship and achievement of students study reveals that there exist substantial relationship between teacher-pupil relationship and achievement of secondary school students.

By the help of this study researcher identified a set of positive relationship between the teacher and the pupil. The key features underlying the positive relationship are mutual respect; shared responsibility for learning and mutual commitment to goals; effective communication and feed back; co:operation and willingness to negotiate conflicts and a sense of security in the classroom. One may provide a number of guidelines under each category for strengthening positive relationship in teaching and learning. The key of all these features, however, is the recognition of the reciprocal nature of the teaching learning process. Both parties must participate, both must learn to trust each other. But the nature of the school and students past interaction with faculty may require the teacher to take the first step toward that mutuality and possibly to continue to lead the way until the students are sufficiently confident to become full partners in the process.

The study found that Teacher-Pupil Relationship influence the achievement in Biology and also the total achievement of students. In order to improve the academic achievements of average and low achievers teachers should take initiative to strengthen the Teacher-Pupil Relationship while providing more personal attention.

**SUGGESTION FOR IMPROVEMENT OF BETTER TEACHER-PUPIL RELATIONSHIP**

A better relationship among students are given below.

1. The best possible way to have a good communication with teachers is to talk freely to them and discuss problems.

2. Problem regarding group assignment can be very easily solved by an adjustment between the above and below average students by forming mixed groups.

3. Below average's should try to sit in front and avoid fear and hesitation. Teacher should pay attention to both the front seaters as well as the back seaters.

4. Teachers are supposed to take some time out of the routine class and talk freely to all the students-about their problems, their experience in the school, and invite the students for their suggestions and ideas. It is the duty of teachers to give equal status to all the students of the class. Teachers are supposed to spend some time with student from outside, have more contacts, correct, praise, encourage, socialize and joke with all students.

5. To the low achievers, teacher should always give more care, help, sympathy, and give more space to them to come forward and work. They should also give them more challenging exercises, so that they are motivated and encouraged to show their skills, abilities and talents.

6. Teacher should try to reduce punishment and to give more importance and participation in extracurricular and co curricular activities with the students.

7. Students who are introverts should try to come forward, and teachers should also help them to do so.

8. Teacher should use student friendly method in their teaching process.

9. Devote more time to low achievers for improving their achievement.

10. Government School teachers should take more initiative in development of Teacher-Pupil Relationship.

11. Teachers should take to develop good relationship without showing discrimination on the basis of girls and boys students.

**SUGGESTIONS FOR FURTHER RESEARCH**

The findings of the study and the limitations encountered in the present study helped the investigator to suggest the following for further research.

1. Since the area of teacher pupil relationship and achievement in very vast, the study can be conducted by including more components of Teacher-Pupil Relationship.

2. Study can be replicated at higher levels that in higher secondary and college level.

3. A study can be conducted to find out the Teacher-Pupil Relationship and achievement of B.Ed students.

4. In this study experimental study is more suitable than descriptive survey.

5. Study can be replicated by increase the teachers sample size.

**APPENDIX X**

**FAROOK TRAINING COLLEGE**

**P.O. FAROOK COLLEGE   
 CALICUT**

**ACHIEVEMENT TEST 2005**

**Biology**

**Std IX Time : 2 hrs**

**Maximum marks - 50**

(Choose appropriateanswer from bracket for questions 1 - 8. Each questions carry ½ mark)

1. The amount of energy released from glucose molecule by the process of glycolysis.  
   (36 ATP, 38 ATP, 2 ATP, 34 ATP)
2. The contageous disease which affect respiratory system.  
   (Whooping Cough, Asthma, Silicosis, Lung Cancer)
3. The ratio between heterozygous and homozygous in F2 generation  
   (3:1, 1:1, 3:2, 1:3)
4. Which of the following does not belong to exoskeleton  
   (Finger Bone, Nail, Hair, Scale)
5. Which of the following is not a part of appendicular skeleton  
   (Rib, Vertibral column, Skull, Thigh Bone)
6. The nitrogen base which is present in DNA but not in RNA  
   (Adenine, Thymine, Uracil, Cytosine)
7. How many sex chromosomes are found in an organism which has 10 chromosomes in its body cell.  
   (10, 5, 20, 8)
8. The organism which is capable for regeneration.

(Hydra, fungus, Earth worm, Yeast)

From question 9 - 12 find the relationship from the first two pairs and then fill the missing word of the second part.

1. Shoulder bone, Ball and Socket joint, --------------, ----------------
2. Photosynthesis, Oxygen, Respiration, ----------------
3. Thymine, Adenine, Cytosine, -------------

Match the following each question. Each question carry one mark.

|  |  |  |  |
| --- | --- | --- | --- |
|  | **A** | **B** | **C** |
|  | Klinefeters syndrome | 2 sex chromosome  3 sex chromosome | Decrease of immunity power |
|  | Turner's syndrome | 1 sex chromosome  22 autosome | Lack of blood coagulation. |
|  | Down syndrome |  | The female with male character |
|  |  |  | Sickle shaped red blood corposcles |
|  |  |  | The male with female character |

Answer the following

1. How do lenticell differ from stomata?
2. How do the structure of respiratory system influence the process of respiration?
3. What is the difference between tenden and ligment?
4. How will the offspring be like; when the heterozygous tall pea plant of F2 generation is committed to self fertilization?
5. What are the changes taking place in the nucleus before cell division?
6. What is meant by human genome project?
7. What are the similarities and difference between the reproductive cells of clamidomonas and fungus?
8. How do yeast produce energy?
9. The bones of older ones are harder than that of young ones. why?
10. How do the inspired air contain traces of water vapour?
11. Heart muscle has both the qualities of striated muscle and non striated muscle - What are they?
12. Draw a flow chart containing different steps of cellular respiration.
13. What is the difference between simple fracture & compound fracture?
14. Analyse the role of male honey bee in the process of reproduction.
15. What is the ration between the sperms contain X chromosome and sperms containing Y chromosome - explain their importance.
16. Write the name of 5 nucleotide.
17. Explain whether the reduction of vital capacity negatively influence health.
18. How do muscle fatigue occur?
19. Mitosis is an important process for existence of an organism - What is your opinion?
20. How do amoeba withstand the situation of a water containing traces of pesticides?
21. A man placed a potted plant in a room for getting more amount of oxygen. What is your opinion about this activity.
22. Given below are the different pea plants found in the garden of Mental.
23. The round seeded yellow pea pants - 90
24. The wringle seeded green pea plant - 10
25. The wringle seeded yellow pea plant - 30
26. Round seeded green pea plant - 30

Explain the process by which Mental conducted hybridization for obtaining such a garden.

**APPENDIX IX**

**FAROOK TRAINING COLLEGE**

**P.O.FAROOK COLLEGE**

**CALICUT**

**ACHIEVEMENT TEST**

**Poh-imkv{Xw**

**Time : 2 hrs**

**Std IX Maximum marks : 50**

**tNmZyw 1þ8 hsc {\_m¡änÂ \nt¶-ähpw DNn-X-amb D¯cw sXsc-sª-Sp-s¯-gp-Xp-I. 1/2 amÀ¡p hoXw**

1. ss¥t¡m-fn-knkneqsS ¥qt¡mkvX·m-{X-bnÂ \n¶v kzX-{´-am-¡-s¸-Sp¶ DuÀÖ-¯nsâ Afhv

(36 ATP , 38 ATP, 2 ATP, 34 ATP)

2. izk-t\-{´n-b-hyhØsb \_m[n-¡p¶ Hcp kmw{I-an-I-tcmKw

(hn-Ã³ Npa, BkvX-a, knen-t¡m-knkv izmk-tIm-imÀ\_p-Zw)

3. F2 Xeapdbnse slän-tdm-sskKkpw tlmtam-ssk-Kkpw X½n-epÅ A\p-]mXw

(3-:1, 1:1, 1:3, 2:1, 1:3)

4. \_mlymØn IpS-¯nÂ s]Sm-¯Xv

(hn-c-fnse AØn, \Jw, tcmaw, ievIw)

5. A\p-\_-Ôm-Øn-Iq-S-¯nsâ `mK-a-Ãm-¯Xv

(hm-cn-sb-Ãv, \s«-Ãv, Xe-tbm-«n, XpS-b-Øn)

6. RNA bnÂ CÃm-¯Xpw DNA bnÂ DÅ-Xp-amb ss\{S-P³ t\_kv

(A-U-\nÂ, ssXan³, bpdm-knÂ, ssktäm-kn³)

7. ico-cn-tIm-i-§-fnÂ 10 t{Ima-tkm-ap-IÄ DÅ Hcp Pohn-bpsS enwK-tIm-i-¯nÂ F{X t{Ima-tkm-ap-IÄ ImWpw.

(10, 5,20,8)

8. ]p\-cp-ev]-¯n¡p Ign-hpÅ Pohn

(ssl-{U, IpanÄ, a®n-c,-bo-Ìv)

**tNmZyw 9þ11 H¶m-as¯ ]Z-tPm-Un-bnse ]Z-§Ä X½n-epÅ \_Ôw Is­¯n c­mas¯ tPmUnbnse hn«p-t]mb ]Zw Fgp-Xp-I. 1amÀ¡p hoXw**

9. tXmsfÃv þ tKmf-c-k-k-Ôn, ImÂap«v-þ-þ-þ-þ-þ-þ-þ-

10. {]Im-i-kw-tÇ-jWw þ HmIvkn-P³, izk\w þþ-þ-þ-þ-þ-þþ

11. ssXan³ þ AU-n\n³, þ ssktäm-kn³ þþ-þ-þ-þ-þ-þ-þ-þþ

**tNcpw ]Sn tNÀ¡pI , 1 amÀ¡p hoXw**

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
|  | A |  | B | C |
| 12 | ¢n³s^ÂSÀ kn³t{Umw | 2. | enwK t{Ima-tkm-ap-IÄ | tcmK-{]-Xn-tcm[ iàn Ipd-bp-¶p. |
| 13. | SÀWÀ kn³t{Umw | 3. | enwK t{Ima-tkm-ap-IÄ | càw I«-]n-Sn-¡m¯ AhØ |
| 14. | Uu¬ kn³t{Umw | 22 | kcq] t{Imatkmw | Acn-hm-fp-t]m-se-bpÅ AcpW |
|  |  | 23. | kcq] t{Imatkmw | kvss{XW-kz-`m-h-apÅ ]pcp-j³ |

**D¯-c-sa-gp-XpI**

15. Bky-c-{Ô-§-fnÂ \n¶v seân-skÂ F§s\ hyXym-k-s¸-«n-cn-¡p-¶p.

16. hmXI hn\n-a-b-¯n\v izmk-tIm-i-¯nsâ LS\ F{X-am{Xw klm-b-I-am-Wv.

17. sS³U-\p-Ifpw kv\mbp-¡fpw X½n-epÅ hyXym-k-sa-´v.

18. F2 Xe-ap-d-bnse slä-tdm-ssk-K-kmb Dbcw IqSnb ]b-dp-sN-Sn-Isf kzbw ]cm-K-W-¯n\v hnt[-b-am-¡n-bmÂ k´m-\-§Ä F§-s\bp-Å-h-bm-bn-cn-¡pw.

19. tImi-hn-`P-\w-B-cw-`n-¡p-¶-Xn-\p-ap³]v aÀa-¯n-\p-ÅnÂ F´p amä-§Ä kw`-hn-¡p-¶p.

20. lyqa³ Pot\mw ]²Xn F¶m-se´v?

21. Ipan-fn-tâbpw ¢mssa-sUm-sam-Wm-kn-tâbpw {]Xyp-ev]m-Z-\-tIm-i-§Ä X½n-epÅ kmay-hy-Xym-k-§-sf´v?

22. boÌv DuÀÖw Dev]m-Zn-¸n-¡p-¶-sX-§s\?

23. Ip«n-I-fpsS AØn-I-tf-¡mÄ apXnÀ¶-h-cpsS AØn ISp-¸-ap-Å-Xm-hm³ Imc-W-sa´v?

24. \nizm-k-hmbp-hnÂ \ocm-hn-bpsS km¶n²yw D­mIp-¶-sX-´p-sIm-­v?

25. lrZ-b-t]-in¡p AØn-t]-in-bpsS arZp-e-t]-inbp-tS-bpw khn-ti-j-X-IÄ D­v GsXms¡?

26. tImi izk-\-¯nsâ hnhn-[-L-«-§Ä DÄs¡m-Åp¶ Hcp ^vtfmNmÀ«v hc-bv¡pI?

27. eLp-`w-Khpw hnj-a-`w-Khpw X½n-epÅ hyXym-k-§-fÄ Fs´m-s¡?

28. tX\o-¨-bpsS {]Xyp-ev]m-Z\ {]{In-b-bnÂ B¬ tX\o-¨-bpsS ]¦v hni-I-e\w sN¿p-I.

29. t{Ima-tkm-ap-IÄ AS-§nb ]pw\_o-P§fpw Y t{Ima-tkm-ap-IÄ AS-§nb ]pw\_o-P§fpw X½nepÅ A\p-]mXw F{X? AXnsâ {]m[m\yw hni-I-e\w sN¿p-I.

30. 5 \yq¢n-tbm-ssS-Up-I-fpsS t]sc-gp-Xp-I.

31. sshäÂ I¸m-knän sISp-¶Xp Btcm-Ky-¯n\v lm\n-I-c-am-hptam? hni-I-e\w sN¿p-I.

32. t]io-¢aw D­m-Ip-¶-sX-§s\?

33. Du\-`wKw Pohn-I-fpsS \ne-\n-ev]n\v Hgn¨p IqSm-\m-hm¯ {]{In-b-bm-Wv, \n§-fpsS A`n-{]m-b-sa-´m-Wv.?

34. t\cnb tXmXnÂ AWp\m-in\n IeÀ¶ Pem-i-b-¯nse Aao\_ B kml-N-cys¯ AXn-Po-hn-¡p-¶-sX-§s\?

35. IqSp-XÂ HmIvkn-P³ e`n-¡p-¶-Xn\p th­n HcmÄ sNSn-¨-«n-bnÂ hfÀ¯p¶ sNSn-IÄ InS-¸p-ap-dn-bnÂ h¨p Cu {]hÀ¯-\s¯ hne-bn-cp¯n \n§-fpsS A`n-{]mbw tcJ-s¸-Sp-¯p-I.

36. saâ-ensâ ]b-dp-tXm-«-¯nÂ I­ hnhn-[-bn\w sNSn-I-fpsS F®w NphsStNÀ¡p-¶p.

aª-\n-d-apÅ Dcp-­-hn-¯p-I-tfm-Sp-Iq-Snb ]bdp-sN-Sn-IÄ þ 90

]¨-\n-d-apÅ Npfp-§nb hn¯p-I-tfm-Sp-Iq-Snb ]b-dp-sN-Sn-IÄ þ10

aª-\n-d-apÅ Npfp-§nb hn¯p-I-tfm-Sp-Iq-Snb ]b-dp-sN-Sn-IÄ þ 30

]¨-\n-d-apÅ Dcp-­-hn-¯p-I-tfm-Sp-Iq-Snb ]bdp-sN-Sn-IÄ þ 30

C¯-c-¯n-semcp tXm«w \nÀ½n-¡p-hm³ saâÂ \S-¯nb hÀ¤ k¦-c-W-coXn Nn{Xo-I-cn-¡p-I.

|  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| Pupil sex | Locality | Type of Management | Type of school | Pupils score | Biology mark | Teacher sex | Locality | Type of Management | Type of school | Teacher score |
| 0 | 1 | 1 | 2 | 333 | 24 | 1 | 1 | 1 | 2 | 382 |
| 0 | 1 | 1 | 2 | 243 | 14 | 1 | 1 | 1 | 2 | 382 |
| 0 | 1 | 1 | 2 | 378 | 34 | 1 | 1 | 1 | 2 | 382 |
| 0 | 1 | 1 | 2 | 313 | 29 | 1 | 1 | 1 | 2 | 382 |
| 0 | 1 | 1 | 2 | 263 | 14 | 1 | 1 | 1 | 2 | 382 |
| 0 | 1 | 1 | 2 | 320 | 21 | 1 | 1 | 1 | 2 | 382 |
| 0 | 1 | 1 | 2 | 328 | 19 | 1 | 1 | 1 | 2 | 382 |
| 0 | 1 | 1 | 2 | 351 | 23 | 1 | 1 | 1 | 2 | 382 |
| 0 | 1 | 1 | 2 | 273 | 10 | 1 | 1 | 1 | 2 | 382 |
| 0 | 1 | 1 | 2 | 354 | 17 | 1 | 1 | 1 | 2 | 382 |
| 0 | 1 | 1 | 2 | 293 | 14 | 1 | 1 | 1 | 2 | 382 |
| 0 | 1 | 1 | 2 | 282 | 28 | 1 | 1 | 1 | 2 | 382 |
| 0 | 1 | 1 | 2 | 301 | 23 | 1 | 1 | 1 | 2 | 382 |
| 0 | 1 | 1 | 2 | 311 | 24 | 1 | 1 | 1 | 2 | 382 |
| 0 | 1 | 1 | 2 | 275 | 26 | 1 | 1 | 1 | 2 | 382 |
| 0 | 1 | 1 | 2 | 324 | 22 | 1 | 1 | 1 | 2 | 382 |
| 0 | 1 | 1 | 2 | 288 | 24 | 1 | 1 | 1 | 2 | 382 |
| 0 | 1 | 1 | 2 | 289 | 28 | 1 | 1 | 1 | 2 | 382 |
| 0 | 1 | 1 | 2 | 286 | 11 | 1 | 1 | 1 | 2 | 382 |
| 0 | 1 | 1 | 2 | 296 | 15 | 1 | 1 | 1 | 2 | 382 |
| 0 | 1 | 1 | 2 | 230 | 16 | 1 | 1 | 1 | 2 | 382 |
| 1 | 1 | 1 | 2 | 317 | 32 | 1 | 1 | 1 | 2 | 382 |
| 1 | 1 | 1 | 2 | 352 | 23 | 1 | 1 | 1 | 2 | 382 |
| 1 | 1 | 1 | 2 | 369 | 22 | 1 | 1 | 1 | 2 | 382 |
| 1 | 1 | 1 | 2 | 304 | 21 | 1 | 1 | 1 | 2 | 382 |
| 1 | 1 | 1 | 2 | 311 | 17 | 1 | 1 | 1 | 2 | 382 |
| 1 | 1 | 1 | 2 | 357 | 16 | 1 | 1 | 1 | 2 | 382 |
| 1 | 1 | 1 | 2 | 329 | 13 | 1 | 1 | 1 | 2 | 382 |
| 1 | 1 | 1 | 2 | 302 | 22 | 1 | 1 | 1 | 2 | 382 |
| 1 | 1 | 1 | 2 | 306 | 32 | 1 | 1 | 1 | 2 | 382 |
| 1 | 1 | 1 | 2 | 235 | 28 | 1 | 1 | 1 | 2 | 382 |
| 1 | 1 | 1 | 2 | 289 | 18 | 1 | 1 | 1 | 2 | 382 |
| 1 | 1 | 1 | 2 | 396 | 21 | 1 | 1 | 1 | 2 | 382 |
| 1 | 1 | 1 | 2 | 368 | 21 | 1 | 1 | 1 | 2 | 382 |
| 1 | 1 | 1 | 2 | 291 | 16 | 1 | 1 | 1 | 2 | 382 |
| 1 | 1 | 1 | 2 | 260 | 11 | 1 | 1 | 1 | 2 | 382 |
| 1 | 1 | 1 | 2 | 324 | 20 | 1 | 1 | 1 | 2 | 382 |
| 1 | 1 | 1 | 2 | 278 | 21 | 1 | 1 | 1 | 2 | 382 |
| 1 | 1 | 1 | 2 | 456 | 35 | 1 | 1 | 1 | 2 | 382 |
| 1 | 1 | 1 | 2 | 253 | 12 | 1 | 1 | 1 | 2 | 382 |
| 1 | 1 | 1 | 2 | 388 | 18 | 1 | 1 | 1 | 2 | 382 |
| 1 | 1 | 1 | 2 | 349 | 17 | 1 | 1 | 1 | 2 | 382 |
| 1 | 1 | 1 | 2 | 357 | 23 | 1 | 1 | 1 | 2 | 382 |
| 1 | 1 | 1 | 2 | 321 | 21 | 1 | 1 | 1 | 2 | 382 |
| 0 | 1 | 1 | 2 | 336 | 28 | 0 | 1 | 1 | 2 | 395 |
| 0 | 1 | 1 | 2 | 341 | 17 | 0 | 1 | 1 | 2 | 395 |
| 0 | 1 | 1 | 2 | 341 | 28 | 0 | 1 | 1 | 2 | 395 |
| 0 | 1 | 1 | 2 | 343 | 39 | 0 | 1 | 1 | 2 | 395 |
| 0 | 1 | 1 | 2 | 347 | 27 | 0 | 1 | 1 | 2 | 395 |
| 0 | 1 | 1 | 2 | 365 | 26 | 0 | 1 | 1 | 2 | 395 |
| 0 | 1 | 1 | 2 | 363 | 21 | 0 | 1 | 1 | 2 | 395 |
| 0 | 1 | 1 | 2 | 367 | 25 | 0 | 1 | 1 | 2 | 395 |
| 0 | 1 | 1 | 2 | 367 | 24 | 0 | 1 | 1 | 2 | 395 |
| 0 | 1 | 1 | 2 | 368 | 26 | 0 | 1 | 1 | 2 | 395 |
| 0 | 1 | 1 | 2 | 371 | 36 | 0 | 1 | 1 | 2 | 395 |
| 0 | 1 | 1 | 2 | 380 | 21 | 0 | 1 | 1 | 2 | 395 |
| 0 | 1 | 1 | 2 | 392 | 30 | 0 | 1 | 1 | 2 | 395 |
| 0 | 1 | 1 | 2 | 259 | 19 | 0 | 1 | 1 | 2 | 395 |
| 0 | 1 | 1 | 2 | 261 | 29 | 0 | 1 | 1 | 2 | 395 |
| 0 | 1 | 1 | 2 | 256 | 19 | 0 | 1 | 1 | 2 | 395 |
| 0 | 1 | 1 | 2 | 252 | 16 | 0 | 1 | 1 | 2 | 395 |
| 0 | 1 | 1 | 2 | 248 | 31 | 0 | 1 | 1 | 2 | 395 |
| 0 | 1 | 1 | 2 | 248 | 18 | 0 | 1 | 1 | 2 | 395 |
| 0 | 1 | 1 | 2 | 222 | 16 | 0 | 1 | 1 | 2 | 395 |
| 0 | 1 | 1 | 2 | 320 | 40 | 0 | 1 | 1 | 2 | 395 |
| 0 | 1 | 1 | 2 | 319 | 18 | 0 | 1 | 1 | 2 | 395 |
| 1 | 1 | 1 | 2 | 320 | 25 | 0 | 1 | 1 | 2 | 395 |
| 1 | 1 | 1 | 2 | 319 | 23 | 0 | 1 | 1 | 2 | 395 |
| 1 | 1 | 1 | 2 | 320 | 22 | 0 | 1 | 1 | 2 | 395 |
| 1 | 1 | 1 | 2 | 320 | 32 | 0 | 1 | 1 | 2 | 395 |
| 1 | 1 | 1 | 2 | 314 | 21 | 0 | 1 | 1 | 2 | 395 |
| 1 | 1 | 1 | 2 | 317 | 14 | 0 | 1 | 1 | 2 | 395 |
| 1 | 1 | 1 | 2 | 313 | 20 | 0 | 1 | 1 | 2 | 395 |
| 1 | 1 | 1 | 2 | 312 | 29 | 0 | 1 | 1 | 2 | 395 |
| 1 | 1 | 1 | 2 | 310 | 22 | 0 | 1 | 1 | 2 | 395 |
| 1 | 1 | 1 | 2 | 309 | 28 | 0 | 1 | 1 | 2 | 395 |
| 1 | 1 | 1 | 2 | 309 | 36 | 0 | 1 | 1 | 2 | 395 |
| 1 | 1 | 1 | 2 | 305 | 17 | 0 | 1 | 1 | 2 | 395 |
| 1 | 1 | 1 | 2 | 302 | 35 | 0 | 1 | 1 | 2 | 395 |
| 1 | 1 | 1 | 2 | 302 | 26 | 0 | 1 | 1 | 2 | 395 |
| 1 | 1 | 1 | 2 | 300 | 30 | 0 | 1 | 1 | 2 | 395 |
| 1 | 1 | 1 | 2 | 293 | 21 | 0 | 1 | 1 | 2 | 395 |
| 1 | 1 | 1 | 2 | 290 | 19 | 0 | 1 | 1 | 2 | 395 |
| 1 | 1 | 1 | 2 | 287 | 15 | 0 | 1 | 1 | 2 | 395 |
| 1 | 1 | 1 | 2 | 284 | 20 | 0 | 1 | 1 | 2 | 395 |
| 1 | 1 | 1 | 2 | 285 | 18 | 0 | 1 | 1 | 2 | 395 |
| 1 | 1 | 1 | 2 | 279 | 14 | 0 | 1 | 1 | 2 | 395 |
| 1 | 1 | 1 | 2 | 270 | 13 | 0 | 1 | 1 | 2 | 395 |
| 1 | 1 | 1 | 2 | 266 | 12 | 0 | 1 | 1 | 2 | 395 |
| 1 | 1 | 1 | 2 | 267 | 32 | 0 | 1 | 1 | 2 | 395 |
| 1 | 1 | 1 | 2 | 262 | 18 | 0 | 1 | 1 | 2 | 395 |
| 1 | 1 | 1 | 2 | 319 | 18 | 0 | 1 | 1 | 2 | 395 |
| 0 | 1 | 1 | 2 | 216 | 20 | 0 | 1 | 1 | 2 | 350 |
| 0 | 1 | 1 | 2 | 227 | 27 | 0 | 1 | 1 | 2 | 350 |
| 0 | 1 | 1 | 2 | 235 | 21 | 0 | 1 | 1 | 2 | 350 |
| 0 | 1 | 1 | 2 | 245 | 29 | 0 | 1 | 1 | 2 | 350 |
| 0 | 1 | 1 | 2 | 246 | 20 | 0 | 1 | 1 | 2 | 350 |
| 0 | 1 | 1 | 2 | 249 | 16 | 0 | 1 | 1 | 2 | 350 |
| 0 | 1 | 1 | 2 | 257 | 18 | 0 | 1 | 1 | 2 | 350 |
| 0 | 1 | 1 | 2 | 259 | 19 | 0 | 1 | 1 | 2 | 350 |
| 0 | 1 | 1 | 2 | 262 | 21 | 0 | 1 | 1 | 2 | 350 |
| 0 | 1 | 1 | 2 | 263 | 12 | 0 | 1 | 1 | 2 | 350 |
| 0 | 1 | 1 | 2 | 263 | 15 | 0 | 1 | 1 | 2 | 350 |
| 0 | 1 | 1 | 2 | 263 | 17 | 0 | 1 | 1 | 2 | 350 |
| 0 | 1 | 1 | 2 | 271 | 19 | 0 | 1 | 1 | 2 | 350 |
| 0 | 1 | 1 | 2 | 269 | 20 | 0 | 1 | 1 | 2 | 350 |
| 0 | 1 | 1 | 2 | 272 | 34 | 0 | 1 | 1 | 2 | 350 |
| 0 | 1 | 1 | 2 | 273 | 21 | 0 | 1 | 1 | 2 | 350 |
| 0 | 1 | 1 | 2 | 274 | 28 | 0 | 1 | 1 | 2 | 350 |
| 0 | 1 | 1 | 2 | 277 | 39 | 0 | 1 | 1 | 2 | 350 |
| 0 | 1 | 1 | 2 | 278 | 17 | 0 | 1 | 1 | 2 | 350 |
| 1 | 1 | 1 | 2 | 282 | 14 | 0 | 1 | 1 | 2 | 350 |
| 1 | 1 | 1 | 2 | 283 | 23 | 0 | 1 | 1 | 2 | 350 |
| 1 | 1 | 1 | 2 | 289 | 18 | 0 | 1 | 1 | 2 | 350 |
| 1 | 1 | 1 | 2 | 290 | 18 | 0 | 1 | 1 | 2 | 350 |
| 1 | 1 | 1 | 2 | 291 | 23 | 0 | 1 | 1 | 2 | 350 |
| 1 | 1 | 1 | 2 | 289 | 19 | 0 | 1 | 1 | 2 | 350 |
| 1 | 1 | 1 | 2 | 297 | 19 | 0 | 1 | 1 | 2 | 350 |
| 1 | 1 | 1 | 2 | 297 | 17 | 0 | 1 | 1 | 2 | 350 |
| 1 | 1 | 1 | 2 | 302 | 25 | 0 | 1 | 1 | 2 | 350 |
| 1 | 1 | 1 | 2 | 310 | 23 | 0 | 1 | 1 | 2 | 350 |
| 1 | 1 | 1 | 2 | 315 | 28 | 0 | 1 | 1 | 2 | 350 |
| 1 | 1 | 1 | 2 | 320 | 29 | 0 | 1 | 1 | 2 | 350 |
| 1 | 1 | 1 | 2 | 325 | 34 | 0 | 1 | 1 | 2 | 350 |
| 1 | 1 | 1 | 2 | 326 | 32 | 0 | 1 | 1 | 2 | 350 |
| 1 | 1 | 1 | 2 | 331 | 35 | 0 | 1 | 1 | 2 | 350 |
| 1 | 1 | 1 | 2 | 332 | 22 | 0 | 1 | 1 | 2 | 350 |
| 1 | 1 | 1 | 2 | 330 | 28 | 0 | 1 | 1 | 2 | 350 |
| 1 | 1 | 1 | 2 | 339 | 29 | 0 | 1 | 1 | 2 | 350 |
| 1 | 1 | 1 | 2 | 350 | 27 | 0 | 1 | 1 | 2 | 350 |
| 1 | 1 | 1 | 2 | 402 | 39 | 0 | 1 | 1 | 2 | 350 |
| 0 | 1 | 1 | 2 | 349 | 27 | 0 | 1 | 1 | 2 | 397 |
| 0 | 1 | 1 | 2 | 268 | 26 | 0 | 1 | 1 | 2 | 397 |
| 0 | 1 | 1 | 2 | 299 | 20 | 0 | 1 | 1 | 2 | 397 |
| 0 | 1 | 1 | 2 | 337 | 31 | 0 | 1 | 1 | 2 | 397 |
| 0 | 1 | 1 | 2 | 350 | 25 | 0 | 1 | 1 | 2 | 397 |
| 0 | 1 | 1 | 2 | 359 | 31 | 0 | 1 | 1 | 2 | 397 |
| 0 | 1 | 1 | 2 | 371 | 23 | 0 | 1 | 1 | 2 | 397 |
| 0 | 1 | 1 | 2 | 257 | 22 | 0 | 1 | 1 | 2 | 397 |
| 0 | 1 | 1 | 2 | 309 | 35 | 0 | 1 | 1 | 2 | 397 |
| 0 | 1 | 1 | 2 | 250 | 32 | 0 | 1 | 1 | 2 | 397 |
| 0 | 1 | 1 | 2 | 291 | 34 | 0 | 1 | 1 | 2 | 397 |
| 0 | 1 | 1 | 2 | 314 | 29 | 0 | 1 | 1 | 2 | 397 |
| 0 | 1 | 1 | 2 | 260 | 28 | 0 | 1 | 1 | 2 | 397 |
| 0 | 1 | 1 | 2 | 365 | 23 | 0 | 1 | 1 | 2 | 397 |
| 0 | 1 | 1 | 2 | 366 | 25 | 0 | 1 | 1 | 2 | 397 |
| 0 | 1 | 1 | 2 | 287 | 17 | 0 | 1 | 1 | 2 | 397 |
| 0 | 1 | 1 | 2 | 330 | 29 | 0 | 1 | 1 | 2 | 397 |
| 0 | 1 | 1 | 2 | 338 | 19 | 0 | 1 | 1 | 2 | 397 |
| 0 | 1 | 1 | 2 | 262 | 23 | 0 | 1 | 1 | 2 | 397 |
| 0 | 1 | 1 | 2 | 302 | 38 | 0 | 1 | 1 | 2 | 397 |
| 1 | 1 | 1 | 2 | 362 | 23 | 0 | 1 | 1 | 2 | 397 |
| 1 | 1 | 1 | 2 | 259 | 24 | 0 | 1 | 1 | 2 | 397 |
| 1 | 1 | 1 | 2 | 235 | 17 | 0 | 1 | 1 | 2 | 397 |
| 1 | 1 | 1 | 2 | 226 | 29 | 0 | 1 | 1 | 2 | 397 |
| 1 | 1 | 1 | 2 | 279 | 28 | 0 | 1 | 1 | 2 | 397 |
| 1 | 1 | 1 | 2 | 325 | 31 | 0 | 1 | 1 | 2 | 397 |
| 1 | 1 | 1 | 2 | 221 | 24 | 0 | 1 | 1 | 2 | 397 |
| 1 | 1 | 1 | 2 | 322 | 28 | 0 | 1 | 1 | 2 | 397 |
| 1 | 1 | 1 | 2 | 310 | 23 | 0 | 1 | 1 | 2 | 397 |
| 1 | 1 | 1 | 2 | 181 | 17 | 0 | 1 | 1 | 2 | 397 |
| 1 | 1 | 1 | 2 | 257 | 21 | 0 | 1 | 1 | 2 | 397 |
| 1 | 1 | 1 | 2 | 302 | 29 | 0 | 1 | 1 | 2 | 397 |
| 1 | 1 | 1 | 2 | 317 | 20 | 0 | 1 | 1 | 2 | 397 |
| 1 | 1 | 1 | 2 | 265 | 16 | 0 | 1 | 1 | 2 | 397 |
| 1 | 1 | 1 | 2 | 337 | 28 | 0 | 1 | 1 | 2 | 397 |
| 1 | 1 | 1 | 2 | 219 | 19 | 0 | 1 | 1 | 2 | 397 |
| 1 | 1 | 1 | 2 | 288 | 21 | 0 | 1 | 1 | 2 | 397 |
| 1 | 1 | 1 | 2 | 253 | 28 | 0 | 1 | 1 | 2 | 397 |
| 1 | 1 | 1 | 2 | 375 | 17 | 0 | 1 | 1 | 2 | 397 |
| 1 | 1 | 1 | 2 | 262 | 18 | 0 | 1 | 1 | 2 | 397 |
| 1 | 1 | 1 | 2 | 302 | 25 | 0 | 1 | 1 | 2 | 397 |
| 0 | 1 | 1 | 2 | 262 | 10 | 1 | 1 | 1 | 2 | 348 |
| 0 | 1 | 1 | 2 | 263 | 16 | 1 | 1 | 1 | 2 | 348 |
| 0 | 1 | 1 | 2 | 265 | 28 | 1 | 1 | 1 | 2 | 348 |
| 0 | 1 | 1 | 2 | 266 | 17 | 1 | 1 | 1 | 2 | 348 |
| 0 | 1 | 1 | 2 | 267 | 27 | 1 | 1 | 1 | 2 | 348 |
| 0 | 1 | 1 | 2 | 268 | 19 | 1 | 1 | 1 | 2 | 348 |
| 0 | 1 | 1 | 2 | 266 | 20 | 1 | 1 | 1 | 2 | 348 |
| 0 | 1 | 1 | 2 | 267 | 10 | 1 | 1 | 1 | 2 | 348 |
| 0 | 1 | 1 | 2 | 269 | 26 | 1 | 1 | 1 | 2 | 348 |
| 0 | 1 | 1 | 2 | 269 | 9 | 1 | 1 | 1 | 2 | 348 |
| 0 | 1 | 1 | 2 | 269 | 15 | 1 | 1 | 1 | 2 | 348 |
| 0 | 1 | 1 | 2 | 269 | 16 | 1 | 1 | 1 | 2 | 348 |
| 0 | 1 | 1 | 2 | 269 | 26 | 1 | 1 | 1 | 2 | 348 |
| 0 | 1 | 1 | 2 | 269 | 6 | 1 | 1 | 1 | 2 | 348 |
| 0 | 1 | 1 | 2 | 270 | 21 | 1 | 1 | 1 | 2 | 348 |
| 0 | 1 | 1 | 2 | 270 | 10 | 1 | 1 | 1 | 2 | 348 |
| 0 | 1 | 1 | 2 | 268 | 16 | 1 | 1 | 1 | 2 | 348 |
| 0 | 1 | 1 | 2 | 272 | 8 | 1 | 1 | 1 | 2 | 348 |
| 0 | 1 | 1 | 2 | 262 | 17 | 1 | 1 | 1 | 2 | 348 |
| 0 | 1 | 1 | 2 | 269 | 34 | 1 | 1 | 1 | 2 | 348 |
| 1 | 1 | 1 | 2 | 259 | 18 | 1 | 1 | 1 | 2 | 348 |
| 1 | 1 | 1 | 2 | 249 | 18 | 1 | 1 | 1 | 2 | 348 |
| 1 | 1 | 1 | 2 | 265 | 10 | 1 | 1 | 1 | 2 | 348 |
| 1 | 1 | 1 | 2 | 271 | 7 | 1 | 1 | 1 | 2 | 348 |
| 1 | 1 | 1 | 2 | 262 | 4 | 1 | 1 | 1 | 2 | 348 |
| 1 | 1 | 1 | 2 | 260 | 18 | 1 | 1 | 1 | 2 | 348 |
| 1 | 1 | 1 | 2 | 260 | 17 | 1 | 1 | 1 | 2 | 348 |
| 1 | 1 | 1 | 2 | 283 | 11 | 1 | 1 | 1 | 2 | 348 |
| 1 | 1 | 1 | 2 | 274 | 25 | 1 | 1 | 1 | 2 | 348 |
| 1 | 1 | 1 | 2 | 271 | 22 | 1 | 1 | 1 | 2 | 348 |
| 1 | 1 | 1 | 2 | 272 | 21 | 1 | 1 | 1 | 2 | 348 |
| 1 | 1 | 1 | 2 | 271 | 34 | 1 | 1 | 1 | 2 | 348 |
| 1 | 1 | 1 | 2 | 271 | 12 | 1 | 1 | 1 | 2 | 348 |
| 1 | 1 | 1 | 2 | 270 | 19 | 1 | 1 | 1 | 2 | 348 |
| 1 | 1 | 1 | 2 | 271 | 26 | 1 | 1 | 1 | 2 | 348 |
| 1 | 1 | 1 | 2 | 271 | 18 | 1 | 1 | 1 | 2 | 348 |
| 1 | 1 | 1 | 2 | 258 | 35 | 1 | 1 | 1 | 2 | 348 |
| 1 | 1 | 1 | 2 | 259 | 31 | 1 | 1 | 1 | 2 | 348 |
| 1 | 1 | 1 | 2 | 257 | 27 | 1 | 1 | 1 | 2 | 348 |
| 1 | 1 | 1 | 2 | 254 | 18 | 1 | 1 | 1 | 2 | 348 |
| 1 | 1 | 1 | 2 | 258 | 9 | 1 | 1 | 1 | 2 | 348 |
| 0 | 1 | 1 | 2 | 306 | 21 | 0 | 1 | 1 | 2 | 430 |
| 0 | 1 | 1 | 2 | 244 | 13 | 0 | 1 | 1 | 2 | 430 |
| 0 | 1 | 1 | 2 | 316 | 24 | 0 | 1 | 1 | 2 | 430 |
| 0 | 1 | 1 | 2 | 244 | 13 | 0 | 1 | 1 | 2 | 430 |
| 0 | 1 | 1 | 2 | 344 | 19 | 0 | 1 | 1 | 2 | 430 |
| 0 | 1 | 1 | 2 | 366 | 25 | 0 | 1 | 1 | 2 | 430 |
| 0 | 1 | 1 | 2 | 412 | 29 | 0 | 1 | 1 | 2 | 430 |
| 0 | 1 | 1 | 2 | 294 | 8 | 0 | 1 | 1 | 2 | 430 |
| 0 | 1 | 1 | 2 | 338 | 12 | 0 | 1 | 1 | 2 | 430 |
| 0 | 1 | 1 | 2 | 243 | 11 | 0 | 1 | 1 | 2 | 430 |
| 0 | 1 | 1 | 2 | 332 | 19 | 0 | 1 | 1 | 2 | 430 |
| 0 | 1 | 1 | 2 | 284 | 19 | 0 | 1 | 1 | 2 | 430 |
| 0 | 1 | 1 | 2 | 260 | 17 | 0 | 1 | 1 | 2 | 430 |
| 0 | 1 | 1 | 2 | 300 | 16 | 0 | 1 | 1 | 2 | 430 |
| 0 | 1 | 1 | 2 | 318 | 21 | 0 | 1 | 1 | 2 | 430 |
| 0 | 1 | 1 | 2 | 332 | 30 | 0 | 1 | 1 | 2 | 430 |
| 0 | 1 | 1 | 2 | 232 | 30 | 0 | 1 | 1 | 2 | 430 |
| 0 | 1 | 1 | 2 | 273 | 14 | 0 | 1 | 1 | 2 | 430 |
| 0 | 1 | 1 | 2 | 218 | 10 | 0 | 1 | 1 | 2 | 430 |
| 0 | 1 | 1 | 2 | 309 | 17 | 0 | 1 | 1 | 2 | 430 |
| 0 | 1 | 1 | 2 | 271 | 19 | 0 | 1 | 1 | 2 | 430 |
| 0 | 1 | 1 | 2 | 186 | 17 | 0 | 1 | 1 | 2 | 430 |
| 0 | 1 | 1 | 2 | 360 | 20 | 0 | 1 | 1 | 2 | 430 |
| 1 | 1 | 1 | 2 | 200 | 17 | 0 | 1 | 1 | 2 | 430 |
| 1 | 1 | 1 | 2 | 187 | 12 | 0 | 1 | 1 | 2 | 430 |
| 1 | 1 | 1 | 2 | 262 | 21 | 0 | 1 | 1 | 2 | 430 |
| 1 | 1 | 1 | 2 | 198 | 10 | 0 | 1 | 1 | 2 | 430 |
| 1 | 1 | 1 | 2 | 278 | 12 | 0 | 1 | 1 | 2 | 430 |
| 1 | 1 | 1 | 2 | 387 | 31 | 0 | 1 | 1 | 2 | 430 |
| 1 | 1 | 1 | 2 | 323 | 25 | 0 | 1 | 1 | 2 | 430 |
| 1 | 1 | 1 | 2 | 330 | 48 | 0 | 1 | 1 | 2 | 430 |
| 1 | 1 | 1 | 2 | 289 | 7 | 0 | 1 | 1 | 2 | 430 |
| 1 | 1 | 1 | 2 | 277 | 15 | 0 | 1 | 1 | 2 | 430 |
| 1 | 1 | 1 | 2 | 249 | 9 | 0 | 1 | 1 | 2 | 430 |
| 1 | 1 | 1 | 2 | 314 | 21 | 0 | 1 | 1 | 2 | 430 |
| 1 | 1 | 1 | 2 | 333 | 19 | 0 | 1 | 1 | 2 | 430 |
| 1 | 1 | 1 | 2 | 259 | 9 | 0 | 1 | 1 | 2 | 430 |
| 1 | 1 | 1 | 2 | 296 | 18 | 0 | 1 | 1 | 2 | 430 |
| 1 | 1 | 1 | 2 | 232 | 18 | 0 | 1 | 1 | 2 | 430 |
| 1 | 1 | 1 | 2 | 314 | 19 | 0 | 1 | 1 | 2 | 430 |
| 1 | 1 | 1 | 2 | 312 | 21 | 0 | 1 | 1 | 2 | 430 |
| 1 | 1 | 1 | 2 | 339 | 23 | 0 | 1 | 1 | 2 | 430 |
| 1 | 1 | 1 | 2 | 236 | 11 | 0 | 1 | 1 | 2 | 430 |
| 1 | 1 | 1 | 2 | 262 | 32 | 0 | 1 | 1 | 2 | 430 |
| 1 | 1 | 1 | 2 | 220 | 18 | 0 | 1 | 1 | 2 | 430 |
| 1 | 1 | 1 | 2 | 289 | 26 | 0 | 1 | 1 | 2 | 430 |
| 0 | 1 | 2 | 1 | 327 | 33 | 0 | 1 | 1 | 2 | 430 |
| 0 | 1 | 2 | 1 | 326 | 29 | 0 | 1 | 1 | 2 | 430 |
| 0 | 1 | 2 | 1 | 347 | 22 | 0 | 1 | 1 | 2 | 430 |
| 0 | 1 | 2 | 1 | 348 | 27 | 0 | 1 | 1 | 2 | 430 |
| 0 | 1 | 2 | 1 | 386 | 20 | 0 | 1 | 1 | 2 | 430 |
| 0 | 1 | 2 | 1 | 385 | 28 | 0 | 1 | 1 | 2 | 430 |
| 0 | 1 | 2 | 1 | 395 | 21 | 0 | 1 | 1 | 2 | 430 |
| 0 | 1 | 2 | 1 | 395 | 15 | 0 | 1 | 1 | 2 | 430 |
| 0 | 1 | 2 | 1 | 396 | 21 | 0 | 1 | 1 | 2 | 430 |
| 0 | 1 | 2 | 1 | 401 | 20 | 0 | 1 | 1 | 2 | 430 |
| 0 | 1 | 2 | 1 | 401 | 20 | 0 | 1 | 1 | 2 | 430 |
| 0 | 1 | 2 | 1 | 260 | 19 | 0 | 1 | 1 | 2 | 430 |
| 0 | 1 | 2 | 1 | 318 | 18 | 0 | 1 | 1 | 2 | 430 |
| 0 | 1 | 2 | 1 | 336 | 17 | 0 | 1 | 1 | 2 | 430 |
| 0 | 1 | 2 | 1 | 339 | 38 | 0 | 1 | 1 | 2 | 430 |
| 0 | 1 | 2 | 1 | 357 | 26 | 0 | 1 | 1 | 2 | 430 |
| 0 | 1 | 2 | 1 | 357 | 23 | 0 | 1 | 1 | 2 | 430 |
| 0 | 1 | 2 | 1 | 360 | 40 | 0 | 1 | 1 | 2 | 430 |
| 0 | 1 | 2 | 1 | 373 | 16 | 0 | 1 | 1 | 2 | 430 |
| 0 | 1 | 2 | 1 | 386 | 19 | 0 | 1 | 1 | 2 | 430 |
| 0 | 1 | 2 | 1 | 397 | 21 | 0 | 1 | 1 | 2 | 430 |
| 0 | 1 | 2 | 1 | 405 | 36 | 0 | 1 | 1 | 2 | 430 |
| 0 | 1 | 2 | 1 | 401 | 41 | 0 | 1 | 1 | 2 | 430 |
| 0 | 1 | 2 | 1 | 408 | 29 | 0 | 1 | 1 | 2 | 430 |
| 0 | 1 | 2 | 1 | 417 | 30 | 0 | 1 | 1 | 2 | 430 |
| 0 | 1 | 2 | 1 | 413 | 31 | 0 | 1 | 1 | 2 | 430 |
| 0 | 1 | 2 | 1 | 419 | 33 | 0 | 1 | 1 | 2 | 430 |
| 0 | 1 | 2 | 1 | 418 | 43 | 0 | 1 | 1 | 2 | 430 |
| 0 | 1 | 2 | 1 | 311 | 19 | 0 | 1 | 1 | 2 | 430 |
| 0 | 1 | 2 | 1 | 293 | 16 | 0 | 1 | 1 | 2 | 430 |
| 0 | 1 | 2 | 1 | 287 | 18 | 0 | 1 | 1 | 2 | 430 |
| 0 | 1 | 2 | 1 | 273 | 15 | 0 | 1 | 1 | 2 | 430 |
| 1 | 1 | 2 | 0 | 398 | 28 | 0 | 1 | 2 | 0 | 333 |
| 1 | 1 | 2 | 0 | 408 | 29 | 0 | 1 | 2 | 0 | 333 |
| 1 | 1 | 2 | 0 | 414 | 33 | 0 | 1 | 2 | 0 | 333 |
| 1 | 1 | 2 | 0 | 414 | 34 | 0 | 1 | 2 | 0 | 333 |
| 1 | 1 | 2 | 0 | 416 | 39 | 0 | 1 | 2 | 0 | 333 |
| 1 | 1 | 2 | 0 | 439 | 35 | 0 | 1 | 2 | 0 | 333 |
| 1 | 1 | 2 | 0 | 430 | 28 | 0 | 1 | 2 | 0 | 333 |
| 1 | 1 | 2 | 0 | 254 | 27 | 0 | 1 | 2 | 0 | 333 |
| 1 | 1 | 2 | 0 | 245 | 25 | 0 | 1 | 2 | 0 | 333 |
| 1 | 1 | 2 | 0 | 216 | 21 | 0 | 1 | 2 | 0 | 333 |
| 1 | 1 | 2 | 0 | 320 | 29 | 0 | 1 | 2 | 0 | 333 |
| 1 | 1 | 2 | 0 | 310 | 16 | 0 | 1 | 2 | 0 | 333 |
| 1 | 1 | 2 | 0 | 308 | 27 | 0 | 1 | 2 | 0 | 333 |
| 1 | 1 | 2 | 0 | 306 | 26 | 0 | 1 | 2 | 0 | 333 |
| 1 | 1 | 2 | 0 | 307 | 23 | 0 | 1 | 2 | 0 | 333 |
| 1 | 1 | 2 | 0 | 305 | 10 | 0 | 1 | 2 | 0 | 333 |
| 1 | 1 | 2 | 0 | 392 | 10 | 0 | 1 | 2 | 0 | 333 |
| 1 | 1 | 2 | 0 | 282 | 18 | 0 | 1 | 2 | 0 | 333 |
| 1 | 1 | 2 | 0 | 274 | 17 | 0 | 1 | 2 | 0 | 333 |
| 1 | 1 | 2 | 0 | 245 | 21 | 0 | 1 | 2 | 0 | 333 |
| 1 | 1 | 2 | 0 | 267 | 20 | 0 | 1 | 2 | 0 | 333 |
| 1 | 1 | 2 | 0 | 320 | 8 | 0 | 1 | 2 | 0 | 333 |
| 1 | 1 | 2 | 0 | 323 | 19 | 0 | 1 | 2 | 0 | 333 |
| 1 | 1 | 2 | 0 | 331 | 19 | 0 | 1 | 2 | 0 | 333 |
| 1 | 1 | 2 | 0 | 334 | 17 | 0 | 1 | 2 | 0 | 333 |
| 1 | 1 | 2 | 0 | 333 | 32 | 0 | 1 | 2 | 0 | 333 |
| 1 | 1 | 2 | 0 | 332 | 36 | 0 | 1 | 2 | 0 | 333 |
| 1 | 1 | 2 | 0 | 333 | 35 | 0 | 1 | 2 | 0 | 333 |
| 1 | 1 | 2 | 0 | 334 | 9 | 0 | 1 | 2 | 0 | 333 |
| 1 | 1 | 2 | 0 | 338 | 39 | 0 | 1 | 2 | 0 | 333 |
| 1 | 1 | 2 | 0 | 336 | 12 | 0 | 1 | 2 | 0 | 333 |
| 1 | 1 | 2 | 0 | 341 | 25 | 0 | 1 | 2 | 0 | 333 |
| 1 | 1 | 2 | 0 | 343 | 20 | 0 | 1 | 2 | 0 | 333 |
| 1 | 1 | 2 | 0 | 347 | 27 | 0 | 1 | 2 | 0 | 333 |
| 1 | 1 | 2 | 0 | 353 | 21 | 0 | 1 | 2 | 0 | 333 |
| 1 | 1 | 2 | 0 | 351 | 11 | 0 | 1 | 2 | 0 | 333 |
| 1 | 1 | 2 | 0 | 348 | 22 | 0 | 1 | 2 | 0 | 333 |
| 1 | 1 | 2 | 0 | 356 | 22 | 0 | 1 | 2 | 0 | 333 |
| 1 | 1 | 2 | 0 | 355 | 19 | 0 | 1 | 2 | 0 | 333 |
| 1 | 1 | 2 | 0 | 362 | 18 | 0 | 1 | 2 | 0 | 333 |
| 1 | 1 | 2 | 0 | 367 | 18 | 0 | 1 | 2 | 0 | 333 |
| 1 | 1 | 2 | 0 | 381 | 19 | 0 | 1 | 2 | 0 | 333 |
| 1 | 1 | 2 | 0 | 372 | 25 | 0 | 1 | 2 | 0 | 333 |
| 1 | 1 | 2 | 0 | 388 | 17 | 0 | 1 | 2 | 0 | 333 |
| 0 | 1 | 2 | 2 | 175 | 37 | 1 | 1 | 2 | 2 | 351 |
| 0 | 1 | 2 | 2 | 155 | 26 | 1 | 1 | 2 | 2 | 351 |
| 0 | 1 | 2 | 2 | 155 | 13 | 1 | 1 | 2 | 2 | 351 |
| 0 | 1 | 2 | 2 | 142 | 20 | 1 | 1 | 2 | 2 | 351 |
| 0 | 1 | 2 | 2 | 265 | 18 | 1 | 1 | 2 | 2 | 351 |
| 0 | 1 | 2 | 2 | 269 | 38 | 1 | 1 | 2 | 2 | 351 |
| 0 | 1 | 2 | 2 | 263 | 22 | 1 | 1 | 2 | 2 | 351 |
| 0 | 1 | 2 | 2 | 275 | 28 | 1 | 1 | 2 | 2 | 351 |
| 0 | 1 | 2 | 2 | 282 | 35 | 1 | 1 | 2 | 2 | 351 |
| 0 | 1 | 2 | 2 | 282 | 10 | 1 | 1 | 2 | 2 | 351 |
| 0 | 1 | 2 | 2 | 290 | 26 | 1 | 1 | 2 | 2 | 351 |
| 0 | 1 | 2 | 2 | 294 | 30 | 1 | 1 | 2 | 2 | 351 |
| 0 | 1 | 2 | 2 | 263 | 33 | 1 | 1 | 2 | 2 | 351 |
| 0 | 1 | 2 | 2 | 263 | 21 | 1 | 1 | 2 | 2 | 351 |
| 0 | 1 | 2 | 2 | 263 | 18 | 1 | 1 | 2 | 2 | 351 |
| 0 | 1 | 2 | 2 | 198 | 20 | 1 | 1 | 2 | 2 | 351 |
| 0 | 1 | 2 | 2 | 207 | 23 | 1 | 1 | 2 | 2 | 351 |
| 0 | 1 | 2 | 2 | 207 | 30 | 1 | 1 | 2 | 2 | 351 |
| 0 | 1 | 2 | 2 | 214 | 18 | 1 | 1 | 2 | 2 | 351 |
| 1 | 1 | 2 | 2 | 222 | 30 | 1 | 1 | 2 | 2 | 351 |
| 1 | 1 | 2 | 2 | 229 | 31 | 1 | 1 | 2 | 2 | 351 |
| 1 | 1 | 2 | 2 | 227 | 42 | 1 | 1 | 2 | 2 | 351 |
| 1 | 1 | 2 | 2 | 231 | 25 | 1 | 1 | 2 | 2 | 351 |
| 1 | 1 | 2 | 2 | 236 | 34 | 1 | 1 | 2 | 2 | 351 |
| 1 | 1 | 2 | 2 | 237 | 29 | 1 | 1 | 2 | 2 | 351 |
| 1 | 1 | 2 | 2 | 239 | 28 | 1 | 1 | 2 | 2 | 351 |
| 1 | 1 | 2 | 2 | 241 | 24 | 1 | 1 | 2 | 2 | 351 |
| 1 | 1 | 2 | 2 | 245 | 35 | 1 | 1 | 2 | 2 | 351 |
| 1 | 1 | 2 | 2 | 251 | 31 | 1 | 1 | 2 | 2 | 351 |
| 1 | 1 | 2 | 2 | 256 | 30 | 1 | 1 | 2 | 2 | 351 |
| 1 | 1 | 2 | 2 | 349 | 25 | 1 | 1 | 2 | 2 | 351 |
| 1 | 1 | 2 | 2 | 370 | 26 | 1 | 1 | 2 | 2 | 351 |
| 1 | 1 | 2 | 2 | 254 | 25 | 1 | 1 | 2 | 2 | 351 |
| 1 | 1 | 2 | 2 | 268 | 22 | 1 | 1 | 2 | 2 | 351 |
| 1 | 1 | 2 | 2 | 228 | 29 | 1 | 1 | 2 | 2 | 351 |
| 1 | 1 | 2 | 2 | 258 | 30 | 1 | 1 | 2 | 2 | 351 |
| 0 | 1 | 2 | 2 | 198 | 20 | 0 | 1 | 2 | 2 | 412 |
| 0 | 1 | 2 | 2 | 273 | 26 | 0 | 1 | 2 | 2 | 412 |
| 0 | 1 | 2 | 2 | 282 | 27 | 0 | 1 | 2 | 2 | 412 |
| 0 | 1 | 2 | 2 | 358 | 21 | 0 | 1 | 2 | 2 | 412 |
| 0 | 1 | 2 | 2 | 376 | 26 | 0 | 1 | 2 | 2 | 412 |
| 0 | 1 | 2 | 2 | 308 | 18 | 0 | 1 | 2 | 2 | 412 |
| 0 | 1 | 2 | 2 | 328 | 18 | 0 | 1 | 2 | 2 | 412 |
| 0 | 1 | 2 | 2 | 408 | 48 | 0 | 1 | 2 | 2 | 412 |
| 0 | 1 | 2 | 2 | 333 | 41 | 0 | 1 | 2 | 2 | 412 |
| 0 | 1 | 2 | 2 | 273 | 18 | 0 | 1 | 2 | 2 | 412 |
| 0 | 1 | 2 | 2 | 283 | 27 | 0 | 1 | 2 | 2 | 412 |
| 0 | 1 | 2 | 2 | 406 | 21 | 0 | 1 | 2 | 2 | 412 |
| 0 | 1 | 2 | 2 | 297 | 18 | 0 | 1 | 2 | 2 | 412 |
| 0 | 1 | 2 | 2 | 274 | 43 | 0 | 1 | 2 | 2 | 412 |
| 0 | 1 | 2 | 2 | 267 | 41 | 0 | 1 | 2 | 2 | 412 |
| 1 | 1 | 2 | 2 | 240 | 24 | 0 | 1 | 2 | 2 | 412 |
| 1 | 1 | 2 | 2 | 300 | 28 | 0 | 1 | 2 | 2 | 412 |
| 1 | 1 | 2 | 2 | 277 | 23 | 0 | 1 | 2 | 2 | 412 |
| 1 | 1 | 2 | 2 | 302 | 25 | 0 | 1 | 2 | 2 | 412 |
| 1 | 1 | 2 | 2 | 265 | 37 | 0 | 1 | 2 | 2 | 412 |
| 1 | 1 | 2 | 2 | 287 | 39 | 0 | 1 | 2 | 2 | 412 |
| 1 | 1 | 2 | 2 | 270 | 36 | 0 | 1 | 2 | 2 | 412 |
| 1 | 1 | 2 | 2 | 318 | 29 | 0 | 1 | 2 | 2 | 412 |
| 1 | 1 | 2 | 2 | 308 | 24 | 0 | 1 | 2 | 2 | 412 |
| 1 | 1 | 2 | 2 | 275 | 31 | 0 | 1 | 2 | 2 | 412 |
| 1 | 1 | 2 | 2 | 306 | 35 | 0 | 1 | 2 | 2 | 412 |
| 1 | 1 | 2 | 2 | 224 | 35 | 0 | 1 | 2 | 2 | 412 |
| 1 | 1 | 2 | 2 | 325 | 33 | 0 | 1 | 2 | 2 | 412 |
| 1 | 1 | 2 | 2 | 293 | 33 | 0 | 1 | 2 | 2 | 412 |
| 1 | 1 | 2 | 2 | 295 | 32 | 0 | 1 | 2 | 2 | 412 |
| 1 | 1 | 2 | 2 | 302 | 40 | 0 | 1 | 2 | 2 | 412 |
| 1 | 1 | 2 | 2 | 281 | 43 | 0 | 1 | 2 | 2 | 412 |
| 1 | 1 | 2 | 2 | 301 | 37 | 0 | 1 | 2 | 2 | 412 |
| 0 | 1 | 0 | 2 | 177 | 14 | 1 | 1 | 0 | 2 | 345 |
| 0 | 1 | 0 | 2 | 335 | 22 | 1 | 1 | 0 | 2 | 345 |
| 0 | 1 | 0 | 2 | 260 | 19 | 1 | 1 | 0 | 2 | 345 |
| 0 | 1 | 0 | 2 | 258 | 21 | 1 | 1 | 0 | 2 | 345 |
| 0 | 1 | 0 | 2 | 259 | 9 | 1 | 1 | 0 | 2 | 345 |
| 0 | 1 | 0 | 2 | 239 | 16 | 1 | 1 | 0 | 2 | 345 |
| 0 | 1 | 0 | 2 | 310 | 18 | 1 | 1 | 0 | 2 | 345 |
| 0 | 1 | 0 | 2 | 283 | 12 | 1 | 1 | 0 | 2 | 345 |
| 0 | 1 | 0 | 2 | 310 | 21 | 1 | 1 | 0 | 2 | 345 |
| 0 | 1 | 0 | 2 | 297 | 10 | 1 | 1 | 0 | 2 | 345 |
| 0 | 1 | 0 | 2 | 336 | 35 | 1 | 1 | 0 | 2 | 345 |
| 0 | 1 | 0 | 2 | 274 | 16 | 1 | 1 | 0 | 2 | 345 |
| 0 | 1 | 0 | 2 | 299 | 13 | 1 | 1 | 0 | 2 | 345 |
| 0 | 1 | 0 | 2 | 311 | 21 | 1 | 1 | 0 | 2 | 345 |
| 0 | 1 | 0 | 2 | 310 | 18 | 1 | 1 | 0 | 2 | 345 |
| 0 | 1 | 0 | 2 | 304 | 23 | 1 | 1 | 0 | 2 | 345 |
| 0 | 1 | 0 | 2 | 303 | 19 | 1 | 1 | 0 | 2 | 345 |
| 0 | 1 | 0 | 2 | 287 | 17 | 1 | 1 | 0 | 2 | 345 |
| 0 | 1 | 0 | 2 | 270 | 17 | 1 | 1 | 0 | 2 | 345 |
| 0 | 1 | 0 | 2 | 263 | 14 | 1 | 1 | 0 | 2 | 345 |
| 0 | 1 | 0 | 2 | 331 | 25 | 1 | 1 | 0 | 2 | 345 |
| 1 | 1 | 0 | 2 | 261 | 11 | 1 | 1 | 0 | 2 | 345 |
| 1 | 1 | 0 | 2 | 332 | 23 | 1 | 1 | 0 | 2 | 345 |
| 1 | 1 | 0 | 2 | 266 | 18 | 1 | 1 | 0 | 2 | 345 |
| 1 | 1 | 0 | 2 | 180 | 8 | 1 | 1 | 0 | 2 | 345 |
| 1 | 1 | 0 | 2 | 191 | 12 | 1 | 1 | 0 | 2 | 345 |
| 1 | 1 | 0 | 2 | 243 | 23 | 1 | 1 | 0 | 2 | 345 |
| 1 | 1 | 0 | 2 | 363 | 18 | 1 | 1 | 0 | 2 | 345 |
| 1 | 1 | 0 | 2 | 266 | 20 | 1 | 1 | 0 | 2 | 345 |
| 1 | 1 | 0 | 2 | 275 | 14 | 1 | 1 | 0 | 2 | 345 |
| 1 | 1 | 0 | 2 | 336 | 17 | 1 | 1 | 0 | 2 | 345 |
| 1 | 1 | 0 | 2 | 174 | 14 | 1 | 1 | 0 | 2 | 345 |
| 1 | 1 | 0 | 2 | 178 | 16 | 1 | 1 | 0 | 2 | 345 |
| 1 | 1 | 0 | 2 | 180 | 16 | 1 | 1 | 0 | 2 | 345 |
| 1 | 1 | 0 | 2 | 185 | 11 | 1 | 1 | 0 | 2 | 345 |
| 1 | 1 | 0 | 2 | 296 | 20 | 1 | 1 | 0 | 2 | 345 |
| 1 | 1 | 0 | 2 | 265 | 15 | 1 | 1 | 0 | 2 | 345 |
| 1 | 1 | 0 | 2 | 239 | 27 | 1 | 1 | 0 | 2 | 345 |
| 1 | 1 | 0 | 2 | 253 | 23 | 1 | 1 | 0 | 2 | 345 |
| 1 | 1 | 0 | 2 | 240 | 19 | 1 | 1 | 0 | 2 | 345 |
| 1 | 1 | 0 | 2 | 331 | 14 | 1 | 1 | 0 | 2 | 345 |
| 1 | 1 | 0 | 2 | 260 | 18 | 1 | 1 | 0 | 2 | 345 |
| 1 | 1 | 0 | 2 | 186 | 11 | 1 | 1 | 0 | 2 | 345 |
| 1 | 1 | 0 | 2 | 201 | 15 | 1 | 1 | 0 | 2 | 345 |
| 1 | 1 | 0 | 2 | 198 | 13 | 1 | 1 | 0 | 2 | 345 |
| 1 | 1 | 0 | 2 | 199 | 12 | 1 | 1 | 0 | 2 | 345 |
| 1 | 1 | 0 | 2 | 202 | 18 | 1 | 1 | 0 | 2 | 345 |
| 1 | 1 | 0 | 2 | 193 | 13 | 1 | 1 | 0 | 2 | 345 |
|  |  |  |  |  |  |  |  |  |  |  |

|  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| Sex of pupil | locality | Type of management | Type of School | Pupil's score | Biology mark | Teacher sex | locality | Type of management | type of school | eacher Score |
| 1 | 0 | 0 | 0 | 256 | 17 | 1 | 0 | 0 | 0 | 441 |
| 1 | 0 | 0 | 0 | 254 | 21 | 1 | 0 | 0 | 0 | 441 |
| 1 | 0 | 0 | 0 | 304 | 16 | 1 | 0 | 0 | 0 | 441 |
| 1 | 0 | 0 | 0 | 303 | 26 | 1 | 0 | 0 | 0 | 441 |
| 1 | 0 | 0 | 0 | 294 | 17 | 1 | 0 | 0 | 0 | 441 |
| 1 | 0 | 0 | 0 | 296 | 28 | 1 | 0 | 0 | 0 | 441 |
| 1 | 0 | 0 | 0 | 290 | 28 | 1 | 0 | 0 | 0 | 441 |
| 1 | 0 | 0 | 0 | 287 | 18 | 1 | 0 | 0 | 0 | 441 |
| 1 | 0 | 0 | 0 | 285 | 14 | 1 | 0 | 0 | 0 | 441 |
| 1 | 0 | 0 | 0 | 282 | 18 | 1 | 0 | 0 | 0 | 441 |
| 1 | 0 | 0 | 0 | 282 | 12 | 1 | 0 | 0 | 0 | 441 |
| 1 | 0 | 0 | 0 | 282 | 32 | 1 | 0 | 0 | 0 | 441 |
| 1 | 0 | 0 | 0 | 281 | 13 | 1 | 0 | 0 | 0 | 441 |
| 1 | 0 | 0 | 0 | 279 | 14 | 1 | 0 | 0 | 0 | 441 |
| 1 | 0 | 0 | 0 | 278 | 11 | 1 | 0 | 0 | 0 | 441 |
| 1 | 0 | 0 | 0 | 278 | 17 | 1 | 0 | 0 | 0 | 441 |
| 1 | 0 | 0 | 0 | 275 | 26 | 1 | 0 | 0 | 0 | 441 |
| 1 | 0 | 0 | 0 | 274 | 31 | 1 | 0 | 0 | 0 | 441 |
| 1 | 0 | 0 | 0 | 273 | 17 | 1 | 0 | 0 | 0 | 441 |
| 1 | 0 | 0 | 0 | 272 | 26 | 1 | 0 | 0 | 0 | 441 |
| 1 | 0 | 0 | 0 | 272 | 23 | 1 | 0 | 0 | 0 | 441 |
| 1 | 0 | 0 | 0 | 271 | 29 | 1 | 0 | 0 | 0 | 441 |
| 1 | 0 | 0 | 0 | 270 | 19 | 1 | 0 | 0 | 0 | 441 |
| 1 | 0 | 0 | 0 | 270 | 18 | 1 | 0 | 0 | 0 | 441 |
| 1 | 0 | 0 | 0 | 269 | 17 | 1 | 0 | 0 | 0 | 441 |
| 1 | 0 | 0 | 0 | 265 | 41 | 1 | 0 | 0 | 0 | 441 |
| 1 | 0 | 0 | 0 | 263 | 32 | 1 | 0 | 0 | 0 | 441 |
| 1 | 0 | 0 | 0 | 260 | 30 | 1 | 0 | 0 | 0 | 441 |
| 1 | 0 | 0 | 0 | 292 | 29 | 1 | 0 | 0 | 0 | 441 |
| 1 | 0 | 0 | 0 | 224 | 33 | 1 | 0 | 0 | 0 | 441 |
| 1 | 0 | 0 | 0 | 265 | 45 | 1 | 0 | 0 | 0 | 441 |
| 1 | 0 | 0 | 0 | 277 | 27 | 1 | 0 | 0 | 0 | 441 |
| 1 | 0 | 0 | 0 | 252 | 24 | 1 | 0 | 0 | 0 | 441 |
| 0 | 0 | 0 | 1 | 263 | 10 | 1 | 0 | 0 | 1 | 416 |
| 0 | 0 | 0 | 1 | 310 | 16 | 1 | 0 | 0 | 1 | 416 |
| 0 | 0 | 0 | 1 | 286 | 21 | 1 | 0 | 0 | 1 | 416 |
| 0 | 0 | 0 | 1 | 257 | 19 | 1 | 0 | 0 | 1 | 416 |
| 0 | 0 | 0 | 1 | 224 | 17 | 1 | 0 | 0 | 1 | 416 |
| 0 | 0 | 0 | 1 | 317 | 14 | 1 | 0 | 0 | 1 | 416 |
| 0 | 0 | 0 | 1 | 323 | 18 | 1 | 0 | 0 | 1 | 416 |
| 0 | 0 | 0 | 1 | 313 | 18 | 1 | 0 | 0 | 1 | 416 |
| 0 | 0 | 0 | 1 | 315 | 21 | 1 | 0 | 0 | 1 | 416 |
| 0 | 0 | 0 | 1 | 322 | 23 | 1 | 0 | 0 | 1 | 416 |
| 0 | 0 | 0 | 1 | 352 | 25 | 1 | 0 | 0 | 1 | 416 |
| 0 | 0 | 0 | 1 | 252 | 31 | 1 | 0 | 0 | 1 | 416 |
| 0 | 0 | 0 | 1 | 225 | 36 | 1 | 0 | 0 | 1 | 416 |
| 0 | 0 | 0 | 1 | 326 | 39 | 1 | 0 | 0 | 1 | 416 |
| 0 | 0 | 0 | 1 | 326 | 30 | 1 | 0 | 0 | 1 | 416 |
| 0 | 0 | 0 | 1 | 307 | 17 | 1 | 0 | 0 | 1 | 416 |
| 0 | 0 | 0 | 1 | 223 | 21 | 1 | 0 | 0 | 1 | 416 |
| 0 | 0 | 0 | 1 | 329 | 25 | 1 | 0 | 0 | 1 | 416 |
| 0 | 0 | 0 | 1 | 304 | 40 | 1 | 0 | 0 | 1 | 416 |
| 0 | 0 | 0 | 1 | 309 | 37 | 1 | 0 | 0 | 1 | 416 |
| 0 | 0 | 0 | 1 | 251 | 28 | 1 | 0 | 0 | 1 | 416 |
| 0 | 0 | 0 | 1 | 332 | 24 | 1 | 0 | 0 | 1 | 416 |
| 0 | 0 | 0 | 1 | 278 | 21 | 1 | 0 | 0 | 1 | 416 |
| 0 | 0 | 0 | 1 | 227 | 20 | 1 | 0 | 0 | 1 | 416 |
| 0 | 0 | 0 | 1 | 262 | 19 | 1 | 0 | 0 | 1 | 416 |
| 0 | 0 | 0 | 1 | 269 | 16 | 1 | 0 | 0 | 1 | 416 |
| 0 | 0 | 0 | 1 | 212 | 27 | 1 | 0 | 0 | 1 | 416 |
| 0 | 0 | 0 | 1 | 254 | 28 | 1 | 0 | 0 | 1 | 416 |
| 0 | 0 | 0 | 1 | 289 | 23 | 1 | 0 | 0 | 1 | 416 |
| 0 | 0 | 0 | 1 | 222 | 25 | 1 | 0 | 0 | 1 | 416 |
| 0 | 0 | 0 | 1 | 221 | 18 | 1 | 0 | 0 | 1 | 416 |
| 0 | 0 | 0 | 1 | 248 | 9 | 1 | 0 | 0 | 1 | 416 |
| 0 | 0 | 0 | 1 | 254 | 11 | 1 | 0 | 0 | 1 | 416 |
| 0 | 0 | 0 | 1 | 243 | 21 | 1 | 0 | 0 | 1 | 416 |
| 0 | 0 | 0 | 1 | 199 | 16 | 1 | 0 | 0 | 1 | 416 |
| 0 | 0 | 0 | 1 | 228 | 10 | 1 | 0 | 0 | 1 | 416 |
| 0 | 0 | 0 | 1 | 255 | 21 | 1 | 0 | 0 | 1 | 410 |
| 0 | 0 | 0 | 1 | 329 | 22 | 1 | 0 | 0 | 1 | 410 |
| 0 | 0 | 0 | 1 | 233 | 29 | 1 | 0 | 0 | 1 | 410 |
| 0 | 0 | 0 | 1 | 274 | 11 | 1 | 0 | 0 | 1 | 410 |
| 0 | 0 | 0 | 1 | 310 | 25 | 1 | 0 | 0 | 1 | 410 |
| 0 | 0 | 0 | 1 | 296 | 28 | 1 | 0 | 0 | 1 | 410 |
| 0 | 0 | 0 | 1 | 298 | 33 | 1 | 0 | 0 | 1 | 410 |
| 0 | 0 | 0 | 1 | 318 | 12 | 1 | 0 | 0 | 1 | 410 |
| 0 | 0 | 0 | 1 | 272 | 17 | 1 | 0 | 0 | 1 | 410 |
| 0 | 0 | 0 | 1 | 347 | 12 | 1 | 0 | 0 | 1 | 410 |
| 0 | 0 | 0 | 1 | 254 | 14 | 1 | 0 | 0 | 1 | 410 |
| 0 | 0 | 0 | 1 | 282 | 18 | 1 | 0 | 0 | 1 | 410 |
| 0 | 0 | 0 | 1 | 276 | 25 | 1 | 0 | 0 | 1 | 410 |
| 0 | 0 | 0 | 1 | 277 | 31 | 1 | 0 | 0 | 1 | 410 |
| 0 | 0 | 0 | 1 | 341 | 10 | 1 | 0 | 0 | 1 | 410 |
| 0 | 0 | 0 | 1 | 304 | 29 | 1 | 0 | 0 | 1 | 410 |
| 0 | 0 | 0 | 1 | 263 | 28 | 1 | 0 | 0 | 1 | 410 |
| 0 | 0 | 0 | 1 | 311 | 38 | 1 | 0 | 0 | 1 | 410 |
| 0 | 0 | 0 | 1 | 296 | 19 | 1 | 0 | 0 | 1 | 410 |
| 0 | 0 | 0 | 1 | 279 | 11 | 1 | 0 | 0 | 1 | 410 |
| 0 | 0 | 0 | 1 | 352 | 31 | 1 | 0 | 0 | 1 | 410 |
| 0 | 0 | 0 | 1 | 430 | 40 | 1 | 0 | 0 | 1 | 410 |
| 0 | 0 | 0 | 1 | 317 | 33 | 1 | 0 | 0 | 1 | 410 |
| 0 | 0 | 0 | 1 | 226 | 27 | 1 | 0 | 0 | 1 | 410 |
| 0 | 0 | 0 | 1 | 317 | 29 | 1 | 0 | 0 | 1 | 410 |
| 0 | 0 | 0 | 1 | 258 | 21 | 1 | 0 | 0 | 1 | 410 |
| 0 | 0 | 0 | 1 | 331 | 28 | 1 | 0 | 0 | 1 | 410 |
| 0 | 0 | 0 | 1 | 293 | 19 | 1 | 0 | 0 | 1 | 410 |
| 0 | 0 | 0 | 1 | 253 | 17 | 1 | 0 | 0 | 1 | 410 |
| 0 | 0 | 0 | 1 | 342 | 26 | 1 | 0 | 0 | 1 | 410 |
| 0 | 0 | 0 | 1 | 283 | 16 | 1 | 0 | 0 | 1 | 410 |
| 0 | 0 | 0 | 1 | 329 | 31 | 1 | 0 | 0 | 1 | 410 |
| 0 | 0 | 0 | 1 | 319 | 29 | 1 | 0 | 0 | 1 | 410 |
| 0 | 0 | 0 | 1 | 352 | 25 | 1 | 0 | 0 | 1 | 410 |
| 0 | 0 | 0 | 1 | 295 | 19 | 1 | 0 | 0 | 1 | 410 |
| 0 | 0 | 0 | 1 | 275 | 14 | 1 | 0 | 0 | 1 | 410 |
| 0 | 0 | 0 | 1 | 334 | 27 | 1 | 0 | 0 | 1 | 410 |
| 0 | 0 | 0 | 1 | 306 | 20 | 1 | 0 | 0 | 1 | 410 |
| 0 | 0 | 0 | 1 | 345 | 23 | 1 | 0 | 0 | 1 | 410 |
| 0 | 0 | 0 | 1 | 243 | 16 | 1 | 0 | 0 | 1 | 410 |
| 0 | 0 | 0 | 1 | 208 | 11 | 1 | 0 | 0 | 1 | 410 |
| 0 | 0 | 0 | 1 | 318 | 41 | 1 | 0 | 0 | 1 | 410 |
| 0 | 0 | 0 | 1 | 226 | 32 | 1 | 0 | 0 | 1 | 410 |
| 0 | 0 | 0 | 1 | 228 | 19 | 1 | 0 | 0 | 1 | 410 |
| 0 | 0 | 0 | 1 | 160 | 4 | 1 | 0 | 0 | 1 | 410 |
| 0 | 0 | 0 | 1 | 265 | 27 | 1 | 0 | 0 | 1 | 410 |
| 0 | 0 | 0 | 1 | 293 | 25 | 1 | 0 | 0 | 1 | 410 |
| 0 | 0 | 0 | 1 | 209 | 21 | 1 | 0 | 0 | 1 | 410 |
| 0 | 0 | 0 | 1 | 340 | 34 | 1 | 0 | 0 | 1 | 410 |
| 0 | 0 | 0 | 1 | 286 | 32 | 1 | 0 | 0 | 1 | 410 |
| 0 | 0 | 0 | 1 | 392 | 29 | 1 | 0 | 0 | 1 | 410 |
| 0 | 0 | 0 | 1 | 244 | 26 | 1 | 0 | 0 | 1 | 410 |
| 0 | 0 | 0 | 1 | 359 | 27 | 1 | 0 | 0 | 1 | 410 |
| 0 | 0 | 0 | 1 | 303 | 33 | 1 | 0 | 0 | 1 | 410 |
| 0 | 0 | 0 | 1 | 393 | 36 | 1 | 0 | 0 | 1 | 410 |
| 0 | 0 | 0 | 1 | 246 | 21 | 1 | 0 | 0 | 1 | 410 |
| 0 | 0 | 0 | 1 | 324 | 21 | 1 | 0 | 0 | 1 | 410 |
| 0 | 0 | 0 | 1 | 330 | 37 | 1 | 0 | 0 | 1 | 410 |
| 1 | 0 | 0 | 0 | 262 | 16 | 0 | 0 | 0 | 0 | 365 |
| 1 | 0 | 0 | 0 | 369 | 26 | 0 | 0 | 0 | 0 | 365 |
| 1 | 0 | 0 | 0 | 328 | 27 | 0 | 0 | 0 | 0 | 365 |
| 1 | 0 | 0 | 0 | 268 | 17 | 0 | 0 | 0 | 0 | 365 |
| 1 | 0 | 0 | 0 | 281 | 28 | 0 | 0 | 0 | 0 | 365 |
| 1 | 0 | 0 | 0 | 353 | 17 | 0 | 0 | 0 | 0 | 365 |
| 1 | 0 | 0 | 0 | 292 | 8 | 0 | 0 | 0 | 0 | 365 |
| 1 | 0 | 0 | 0 | 285 | 14 | 0 | 0 | 0 | 0 | 365 |
| 1 | 0 | 0 | 0 | 331 | 18 | 0 | 0 | 0 | 0 | 365 |
| 1 | 0 | 0 | 0 | 248 | 12 | 0 | 0 | 0 | 0 | 365 |
| 1 | 0 | 0 | 0 | 351 | 43 | 0 | 0 | 0 | 0 | 365 |
| 1 | 0 | 0 | 0 | 364 | 23 | 0 | 0 | 0 | 0 | 365 |
| 1 | 0 | 0 | 0 | 250 | 13 | 0 | 0 | 0 | 0 | 365 |
| 1 | 0 | 0 | 0 | 233 | 13 | 0 | 0 | 0 | 0 | 365 |
| 1 | 0 | 0 | 0 | 288 | 11 | 0 | 0 | 0 | 0 | 365 |
| 1 | 0 | 0 | 0 | 280 | 17 | 0 | 0 | 0 | 0 | 365 |
| 1 | 0 | 0 | 0 | 324 | 16 | 0 | 0 | 0 | 0 | 365 |
| 1 | 0 | 0 | 0 | 277 | 6 | 0 | 0 | 0 | 0 | 365 |
| 1 | 0 | 0 | 0 | 285 | 11 | 0 | 0 | 0 | 0 | 365 |
| 1 | 0 | 0 | 0 | 236 | 7 | 0 | 0 | 0 | 0 | 365 |
| 1 | 0 | 0 | 0 | 319 | 21 | 0 | 0 | 0 | 0 | 365 |
| 1 | 0 | 0 | 0 | 241 | 12 | 0 | 0 | 0 | 0 | 365 |
| 1 | 0 | 0 | 0 | 272 | 12 | 0 | 0 | 0 | 0 | 365 |
| 1 | 0 | 0 | 0 | 178 | 32 | 0 | 0 | 0 | 0 | 365 |
| 1 | 0 | 0 | 0 | 214 | 14 | 0 | 0 | 0 | 0 | 365 |
| 1 | 0 | 0 | 0 | 277 | 12 | 0 | 0 | 0 | 0 | 365 |
| 1 | 0 | 0 | 0 | 242 | 9 | 0 | 0 | 0 | 0 | 365 |
| 1 | 0 | 0 | 0 | 212 | 10 | 0 | 0 | 0 | 0 | 365 |
| 1 | 0 | 0 | 0 | 297 | 24 | 0 | 0 | 0 | 0 | 365 |
| 1 | 0 | 0 | 0 | 322 | 27 | 0 | 0 | 0 | 0 | 365 |
| 1 | 0 | 0 | 0 | 387 | 21 | 0 | 0 | 0 | 0 | 365 |
| 1 | 0 | 0 | 0 | 365 | 45 | 0 | 0 | 0 | 0 | 365 |
| 0 | 0 | 0 | 1 | 320 | 23 | 0 | 0 | 0 | 1 | 387 |
| 0 | 0 | 0 | 1 | 330 | 18 | 0 | 0 | 0 | 1 | 387 |
| 0 | 0 | 0 | 1 | 327 | 21 | 0 | 0 | 0 | 1 | 387 |
| 0 | 0 | 0 | 1 | 330 | 19 | 0 | 0 | 0 | 1 | 387 |
| 0 | 0 | 0 | 1 | 332 | 30 | 0 | 0 | 0 | 1 | 387 |
| 0 | 0 | 0 | 1 | 330 | 25 | 0 | 0 | 0 | 1 | 387 |
| 0 | 0 | 0 | 1 | 333 | 20 | 0 | 0 | 0 | 1 | 387 |
| 0 | 0 | 0 | 1 | 330 | 16 | 0 | 0 | 0 | 1 | 387 |
| 0 | 0 | 0 | 1 | 341 | 34 | 0 | 0 | 0 | 1 | 387 |
| 0 | 0 | 0 | 1 | 350 | 22 | 0 | 0 | 0 | 1 | 387 |
| 0 | 0 | 0 | 1 | 363 | 20 | 0 | 0 | 0 | 1 | 387 |
| 0 | 0 | 0 | 1 | 367 | 27 | 0 | 0 | 0 | 1 | 387 |
| 0 | 0 | 0 | 1 | 370 | 18 | 0 | 0 | 0 | 1 | 387 |
| 0 | 0 | 0 | 1 | 372 | 42 | 0 | 0 | 0 | 1 | 387 |
| 0 | 0 | 0 | 1 | 384 | 19 | 0 | 0 | 0 | 1 | 387 |
| 0 | 0 | 0 | 1 | 400 | 23 | 0 | 0 | 0 | 1 | 387 |
| 0 | 0 | 0 | 1 | 401 | 30 | 0 | 0 | 0 | 1 | 387 |
| 0 | 0 | 0 | 1 | 409 | 26 | 0 | 0 | 0 | 1 | 387 |
| 0 | 0 | 0 | 1 | 420 | 32 | 0 | 0 | 0 | 1 | 387 |
| 0 | 0 | 0 | 1 | 283 | 18 | 0 | 0 | 0 | 1 | 387 |
| 0 | 0 | 0 | 1 | 281 | 18 | 0 | 0 | 0 | 1 | 387 |
| 0 | 0 | 0 | 1 | 250 | 15 | 0 | 0 | 0 | 1 | 387 |
| 0 | 0 | 0 | 1 | 236 | 21 | 0 | 0 | 0 | 1 | 387 |
| 0 | 0 | 0 | 1 | 311 | 46 | 0 | 0 | 0 | 1 | 387 |
| 0 | 0 | 0 | 1 | 311 | 24 | 0 | 0 | 0 | 1 | 387 |
| 0 | 0 | 0 | 1 | 307 | 27 | 0 | 0 | 0 | 1 | 387 |
| 0 | 0 | 0 | 1 | 307 | 17 | 0 | 0 | 0 | 1 | 387 |
| 0 | 0 | 0 | 1 | 305 | 19 | 0 | 0 | 0 | 1 | 387 |
| 0 | 0 | 0 | 1 | 299 | 38 | 0 | 0 | 0 | 1 | 387 |
| 0 | 0 | 0 | 1 | 297 | 18 | 0 | 0 | 0 | 1 | 387 |
| 0 | 0 | 0 | 1 | 293 | 21 | 0 | 0 | 0 | 1 | 387 |
| 0 | 0 | 0 | 1 | 295 | 15 | 0 | 0 | 0 | 1 | 387 |
| 0 | 0 | 0 | 1 | 287 | 22 | 0 | 0 | 0 | 1 | 387 |
| 0 | 0 | 0 | 1 | 287 | 20 | 0 | 0 | 0 | 1 | 387 |
| 0 | 0 | 0 | 1 | 279 | 31 | 0 | 0 | 0 | 1 | 387 |
| 0 | 0 | 0 | 1 | 279 | 19 | 0 | 0 | 0 | 1 | 387 |
| 0 | 0 | 0 | 1 | 272 | 18 | 0 | 0 | 0 | 1 | 387 |
| 0 | 0 | 0 | 1 | 271 | 43 | 0 | 0 | 0 | 1 | 387 |
| 0 | 0 | 0 | 1 | 260 | 25 | 0 | 0 | 0 | 1 | 387 |
| 1 | 0 | 0 | 0 | 344 | 23 | 1 | 0 | 0 | 0 | 344 |
| 1 | 0 | 0 | 0 | 354 | 27 | 1 | 0 | 0 | 0 | 344 |
| 1 | 0 | 0 | 0 | 389 | 20 | 1 | 0 | 0 | 0 | 344 |
| 1 | 0 | 0 | 0 | 249 | 15 | 1 | 0 | 0 | 0 | 344 |
| 1 | 0 | 0 | 0 | 273 | 28 | 1 | 0 | 0 | 0 | 344 |
| 1 | 0 | 0 | 0 | 261 | 27 | 1 | 0 | 0 | 0 | 344 |
| 1 | 0 | 0 | 0 | 259 | 31 | 1 | 0 | 0 | 0 | 344 |
| 1 | 0 | 0 | 0 | 256 | 27 | 1 | 0 | 0 | 0 | 344 |
| 1 | 0 | 0 | 0 | 255 | 10 | 1 | 0 | 0 | 0 | 344 |
| 1 | 0 | 0 | 0 | 251 | 17 | 1 | 0 | 0 | 0 | 344 |
| 1 | 0 | 0 | 0 | 244 | 9 | 1 | 0 | 0 | 0 | 344 |
| 1 | 0 | 0 | 0 | 243 | 10 | 1 | 0 | 0 | 0 | 344 |
| 1 | 0 | 0 | 0 | 239 | 25 | 1 | 0 | 0 | 0 | 344 |
| 1 | 0 | 0 | 0 | 237 | 32 | 1 | 0 | 0 | 0 | 344 |
| 1 | 0 | 0 | 0 | 235 | 16 | 1 | 0 | 0 | 0 | 344 |
| 1 | 0 | 0 | 0 | 234 | 15 | 1 | 0 | 0 | 0 | 344 |
| 1 | 0 | 0 | 0 | 235 | 30 | 1 | 0 | 0 | 0 | 344 |
| 1 | 0 | 0 | 0 | 234 | 20 | 1 | 0 | 0 | 0 | 344 |
| 1 | 0 | 0 | 0 | 234 | 7 | 1 | 0 | 0 | 0 | 344 |
| 1 | 0 | 0 | 0 | 231 | 10 | 1 | 0 | 0 | 0 | 344 |
| 1 | 0 | 0 | 0 | 228 | 14 | 1 | 0 | 0 | 0 | 344 |
| 1 | 0 | 0 | 0 | 227 | 16 | 1 | 0 | 0 | 0 | 344 |
| 1 | 0 | 0 | 0 | 228 | 9 | 1 | 0 | 0 | 0 | 344 |
| 1 | 0 | 0 | 0 | 227 | 7 | 1 | 0 | 0 | 0 | 344 |
| 1 | 0 | 0 | 0 | 225 | 12 | 1 | 0 | 0 | 0 | 344 |
| 1 | 0 | 0 | 0 | 220 | 22 | 1 | 0 | 0 | 0 | 344 |
| 1 | 0 | 0 | 0 | 222 | 5 | 1 | 0 | 0 | 0 | 344 |
| 1 | 0 | 0 | 0 | 215 | 8 | 1 | 0 | 0 | 0 | 344 |
| 1 | 0 | 0 | 0 | 212 | 8 | 1 | 0 | 0 | 0 | 344 |
| 1 | 0 | 0 | 0 | 209 | 13 | 1 | 0 | 0 | 0 | 344 |
| 1 | 0 | 0 | 0 | 212 | 7 | 1 | 0 | 0 | 0 | 344 |
| 1 | 0 | 0 | 0 | 210 | 18 | 1 | 0 | 0 | 0 | 344 |
| 1 | 0 | 0 | 0 | 198 | 14 | 1 | 0 | 0 | 0 | 344 |
| 1 | 0 | 0 | 0 | 175 | 13 | 1 | 0 | 0 | 0 | 344 |
| 1 | 0 | 0 | 0 | 171 | 7 | 1 | 0 | 0 | 0 | 344 |
| 1 | 0 | 0 | 0 | 311 | 21 | 1 | 0 | 0 | 0 | 344 |
| 1 | 0 | 0 | 0 | 306 | 43 | 1 | 0 | 0 | 0 | 344 |
| 1 | 0 | 0 | 0 | 302 | 39 | 1 | 0 | 0 | 0 | 344 |
| 1 | 0 | 0 | 0 | 286 | 11 | 1 | 0 | 0 | 0 | 344 |
| 1 | 0 | 0 | 0 | 286 | 12 | 1 | 0 | 0 | 0 | 344 |
| 1 | 0 | 0 | 0 | 288 | 19 | 1 | 0 | 0 | 0 | 344 |
| 1 | 0 | 0 | 0 | 283 | 17 | 1 | 0 | 0 | 0 | 344 |
| 1 | 0 | 0 | 0 | 279 | 17 | 1 | 0 | 0 | 0 | 344 |
| 1 | 0 | 0 | 0 | 277 | 21 | 1 | 0 | 0 | 0 | 344 |
| 1 | 0 | 0 | 0 | 272 | 12 | 1 | 0 | 0 | 0 | 344 |
| 1 | 0 | 0 | 0 | 273 | 18 | 1 | 0 | 0 | 0 | 344 |
| 1 | 0 | 0 | 0 | 267 | 11 | 1 | 0 | 0 | 0 | 344 |
| 1 | 0 | 0 | 0 | 265 | 16 | 1 | 0 | 0 | 0 | 344 |
| 1 | 0 | 0 | 0 | 267 | 29 | 1 | 0 | 0 | 0 | 344 |
| 1 | 0 | 0 | 0 | 264 | 37 | 1 | 0 | 0 | 0 | 344 |
| 1 | 0 | 0 | 0 | 261 | 15 | 1 | 0 | 0 | 0 | 344 |
| 0 | 0 | 1 | 2 | 353 | 21 | 0 | 0 | 1 | 2 | 463 |
| 0 | 0 | 1 | 2 | 356 | 23 | 0 | 0 | 1 | 2 | 463 |
| 0 | 0 | 1 | 2 | 396 | 31 | 0 | 0 | 1 | 2 | 463 |
| 0 | 0 | 1 | 2 | 261 | 13 | 0 | 0 | 1 | 2 | 463 |
| 0 | 0 | 1 | 2 | 258 | 9 | 0 | 0 | 1 | 2 | 463 |
| 0 | 0 | 1 | 2 | 258 | 15 | 0 | 0 | 1 | 2 | 463 |
| 0 | 0 | 1 | 2 | 255 | 19 | 0 | 0 | 1 | 2 | 463 |
| 0 | 0 | 1 | 2 | 255 | 8 | 0 | 0 | 1 | 2 | 463 |
| 0 | 0 | 1 | 2 | 301 | 12 | 0 | 0 | 1 | 2 | 463 |
| 0 | 0 | 1 | 2 | 325 | 22 | 0 | 0 | 1 | 2 | 463 |
| 0 | 0 | 1 | 2 | 301 | 21 | 0 | 0 | 1 | 2 | 463 |
| 0 | 0 | 1 | 2 | 241 | 14 | 0 | 0 | 1 | 2 | 463 |
| 0 | 0 | 1 | 2 | 332 | 19 | 0 | 0 | 1 | 2 | 463 |
| 0 | 0 | 1 | 2 | 331 | 21 | 0 | 0 | 1 | 2 | 463 |
| 0 | 0 | 1 | 2 | 350 | 40 | 0 | 0 | 1 | 2 | 463 |
| 0 | 0 | 1 | 2 | 254 | 19 | 0 | 0 | 1 | 2 | 463 |
| 0 | 0 | 1 | 2 | 248 | 25 | 0 | 0 | 1 | 2 | 463 |
| 0 | 0 | 1 | 2 | 241 | 19 | 0 | 0 | 1 | 2 | 463 |
| 0 | 0 | 1 | 2 | 242 | 14 | 0 | 0 | 1 | 2 | 463 |
| 0 | 0 | 1 | 2 | 240 | 10 | 0 | 0 | 1 | 2 | 463 |
| 0 | 0 | 1 | 2 | 227 | 17 | 0 | 0 | 1 | 2 | 463 |
| 0 | 0 | 1 | 2 | 204 | 19 | 0 | 0 | 1 | 2 | 463 |
| 1 | 0 | 1 | 2 | 200 | 17 | 0 | 0 | 1 | 2 | 463 |
| 1 | 0 | 1 | 2 | 200 | 14 | 0 | 0 | 1 | 2 | 463 |
| 1 | 0 | 1 | 2 | 201 | 22 | 0 | 0 | 1 | 2 | 463 |
| 1 | 0 | 1 | 2 | 189 | 21 | 0 | 0 | 1 | 2 | 463 |
| 1 | 0 | 1 | 2 | 315 | 20 | 0 | 0 | 1 | 2 | 463 |
| 1 | 0 | 1 | 2 | 313 | 19 | 0 | 0 | 1 | 2 | 463 |
| 1 | 0 | 1 | 2 | 317 | 23 | 0 | 0 | 1 | 2 | 463 |
| 1 | 0 | 1 | 2 | 311 | 18 | 0 | 0 | 1 | 2 | 463 |
| 1 | 0 | 1 | 2 | 310 | 25 | 0 | 0 | 1 | 2 | 463 |
| 1 | 0 | 1 | 2 | 311 | 48 | 0 | 0 | 1 | 2 | 463 |
| 1 | 0 | 1 | 2 | 307 | 17 | 0 | 0 | 1 | 2 | 463 |
| 1 | 0 | 1 | 2 | 303 | 32 | 0 | 0 | 1 | 2 | 463 |
| 1 | 0 | 1 | 2 | 300 | 23 | 0 | 0 | 1 | 2 | 463 |
| 1 | 0 | 1 | 2 | 297 | 11 | 0 | 0 | 1 | 2 | 463 |
| 1 | 0 | 1 | 2 | 291 | 16 | 0 | 0 | 1 | 2 | 463 |
| 1 | 0 | 1 | 2 | 291 | 19 | 0 | 0 | 1 | 2 | 463 |
| 1 | 0 | 1 | 2 | 287 | 21 | 0 | 0 | 1 | 2 | 463 |
| 1 | 0 | 1 | 2 | 288 | 26 | 0 | 0 | 1 | 2 | 463 |
| 1 | 0 | 1 | 2 | 284 | 29 | 0 | 0 | 1 | 2 | 463 |
| 1 | 0 | 1 | 2 | 286 | 14 | 0 | 0 | 1 | 2 | 463 |
| 1 | 0 | 1 | 2 | 281 | 31 | 0 | 0 | 1 | 2 | 463 |
| 1 | 0 | 1 | 2 | 277 | 35 | 0 | 0 | 1 | 2 | 463 |
| 1 | 0 | 1 | 2 | 274 | 43 | 0 | 0 | 1 | 2 | 463 |
| 1 | 0 | 1 | 2 | 271 | 21 | 0 | 0 | 1 | 2 | 463 |
| 1 | 0 | 1 | 2 | 260 | 18 | 0 | 0 | 1 | 2 | 463 |
| 1 | 0 | 1 | 2 | 297 | 20 | 0 | 0 | 1 | 2 | 463 |
| 0 | 0 | 2 | 2 | 370 | 24 | 1 | 0 | 2 | 2 | 344 |
| 0 | 0 | 2 | 2 | 371 | 27 | 1 | 0 | 2 | 2 | 344 |
| 0 | 0 | 2 | 2 | 281 | 19 | 1 | 0 | 2 | 2 | 344 |
| 0 | 0 | 2 | 2 | 225 | 10 | 1 | 0 | 2 | 2 | 344 |
| 0 | 0 | 2 | 2 | 283 | 22 | 1 | 0 | 2 | 2 | 344 |
| 0 | 0 | 2 | 2 | 236 | 14 | 1 | 0 | 2 | 2 | 344 |
| 0 | 0 | 2 | 2 | 380 | 28 | 1 | 0 | 2 | 2 | 344 |
| 0 | 0 | 2 | 2 | 370 | 12 | 1 | 0 | 2 | 2 | 344 |
| 0 | 0 | 2 | 2 | 272 | 12 | 1 | 0 | 2 | 2 | 344 |
| 0 | 0 | 2 | 2 | 241 | 10 | 1 | 0 | 2 | 2 | 344 |
| 0 | 0 | 2 | 2 | 290 | 23 | 1 | 0 | 2 | 2 | 344 |
| 0 | 0 | 2 | 2 | 292 | 25 | 1 | 0 | 2 | 2 | 344 |
| 0 | 0 | 2 | 2 | 202 | 18 | 1 | 0 | 2 | 2 | 344 |
| 0 | 0 | 2 | 2 | 316 | 25 | 1 | 0 | 2 | 2 | 344 |
| 0 | 0 | 2 | 2 | 229 | 22 | 1 | 0 | 2 | 2 | 344 |
| 0 | 0 | 2 | 2 | 373 | 19 | 1 | 0 | 2 | 2 | 344 |
| 0 | 0 | 2 | 2 | 327 | 22 | 1 | 0 | 2 | 2 | 344 |
| 0 | 0 | 2 | 2 | 284 | 28 | 1 | 0 | 2 | 2 | 344 |
| 0 | 0 | 2 | 2 | 279 | 11 | 1 | 0 | 2 | 2 | 344 |
| 0 | 0 | 2 | 2 | 182 | 14 | 1 | 0 | 2 | 2 | 344 |
| 0 | 0 | 2 | 2 | 276 | 28 | 1 | 0 | 2 | 2 | 344 |
| 0 | 0 | 2 | 2 | 298 | 21 | 1 | 0 | 2 | 2 | 344 |
| 0 | 0 | 2 | 2 | 271 | 14 | 1 | 0 | 2 | 2 | 344 |
| 0 | 0 | 2 | 2 | 201 | 8 | 1 | 0 | 2 | 2 | 344 |
| 0 | 0 | 2 | 2 | 262 | 25 | 1 | 0 | 2 | 2 | 344 |
| 0 | 0 | 2 | 2 | 243 | 14 | 1 | 0 | 2 | 2 | 344 |
| 0 | 0 | 2 | 2 | 259 | 12 | 1 | 0 | 2 | 2 | 344 |
| 1 | 0 | 2 | 2 | 306 | 22 | 1 | 0 | 2 | 2 | 344 |
| 1 | 0 | 2 | 2 | 289 | 36 | 1 | 0 | 2 | 2 | 344 |
| 1 | 0 | 2 | 2 | 271 | 10 | 1 | 0 | 2 | 2 | 344 |
| 1 | 0 | 2 | 2 | 236 | 12 | 1 | 0 | 2 | 2 | 344 |
| 1 | 0 | 2 | 2 | 298 | 22 | 1 | 0 | 2 | 2 | 344 |
| 1 | 0 | 2 | 2 | 252 | 36 | 1 | 0 | 2 | 2 | 344 |
| 1 | 0 | 2 | 2 | 226 | 10 | 1 | 0 | 2 | 2 | 344 |
| 1 | 0 | 2 | 2 | 204 | 12 | 1 | 0 | 2 | 2 | 344 |
| 1 | 0 | 2 | 2 | 277 | 17 | 1 | 0 | 2 | 2 | 344 |
| 1 | 0 | 2 | 2 | 292 | 30 | 1 | 0 | 2 | 2 | 344 |
| 1 | 0 | 2 | 2 | 227 | 35 | 1 | 0 | 2 | 2 | 344 |
| 1 | 0 | 2 | 2 | 295 | 8 | 1 | 0 | 2 | 2 | 344 |
| 1 | 0 | 2 | 2 | 295 | 31 | 1 | 0 | 2 | 2 | 344 |
| 1 | 0 | 2 | 2 | 317 | 30 | 1 | 0 | 2 | 2 | 344 |
| 1 | 0 | 2 | 2 | 295 | 25 | 1 | 0 | 2 | 2 | 344 |
| 1 | 0 | 2 | 2 | 317 | 28 | 1 | 0 | 2 | 2 | 344 |
| 1 | 0 | 2 | 2 | 278 | 14 | 1 | 0 | 2 | 2 | 344 |
| 1 | 0 | 2 | 2 | 278 | 25 | 1 | 0 | 2 | 2 | 344 |
| 1 | 0 | 2 | 2 | 213 | 22 | 1 | 0 | 2 | 2 | 344 |
| 1 | 0 | 2 | 2 | 213 | 25 | 1 | 0 | 2 | 2 | 344 |
| 1 | 0 | 2 | 2 | 261 | 29 | 1 | 0 | 2 | 2 | 344 |
| 1 | 0 | 2 | 2 | 216 | 21 | 1 | 0 | 2 | 2 | 344 |
| 1 | 0 | 2 | 2 | 265 | 28 | 1 | 0 | 2 | 2 | 344 |
| 1 | 0 | 2 | 2 | 265 | 24 | 1 | 0 | 2 | 2 | 344 |

**FAROOK TRAINING COLLEGE**

**P.O. FAROOK COLLEGE**

**CALICUT**

**TEACHER-PUPIL RELATIONSHIP SCALE - 2005**

**[PUPIL VERSION - DRAFT]**

**K.P. MOHAMED ISHAQ RANJITHA. T**

Selection Grade Lecturer M.Ed. Student

Farook Training College Farook Training College

**\nÀt±-i-§Ä**

A[ym-]-I-þ-hn-ZymÀ°n \_Ôs¯ kqNn-¸n-¡p¶ {]Øm-h-\-IÄ Xmsg sImSp¯n-cn-¡p-¶p. AXn\v \n§-fpsS {]Xn-I-cWw X¶n-cn-¡p¶ D¯-c-¡-S-em-knÂ A©v hn`m-K-§-fnÂ "Xosc CÃ', "Ipd¨v D­v', "icm-icn', "IqSp-XÂ D­v', "hfsc IqSp-XÂ D­v' CXnÂ GXm-sW¶v KpW-\-NnÓw (X) -D]-tbmKn¨v D¯-c-¡-S-em-knse tImf¯nÂ tcJ-s¸-Sp-¯p-I. {]kvXm-h-\-]-{X-¯nÂ H¶pw-Xs¶ Fgp-X-cp-Xv.

A[ym-]-I-þ-hn-ZymÀ°n-\_-Ô-¯nÂ Ds­¶v \n§Ä Icp-Xp¶ Hcp LSIw, DZm-l-cWambn Bi-b-hn-\n-abw - (Communication) -Aev]w-t]mepw CsÃ-¦nÂ "Xosc CÃ' F¶pw Aev]w Ds­-¦nÂ "Ipd¨v D­v' F¶pw anX-amb tXmXnÂ Ds­-¦nÂ "icm-icn' F¶pw icm-i-cn-tb-¡mÄ IqSp-XÂ Ds­-¦nÂ "IqSp-XÂ D­v' F¶pw, \¶mbn Ds­-¦nÂ "hfsc IqSp-XÂ D­v' F¶pamWv tcJ-s¸-Sp-t¯-­-Xv.

DZm-l-cWw :þ A[ym-]-I³ Ip«n-I-fpsS Iq«mb ]T-\-{]-hÀ¯-\-¯n\v IqSp-XÂ   
 {]m[m\yw \ÂIp-¶p-­v.

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| Xosc CÃ | Ipd¨v D­v | Icm-icn | IqSp-Xep­v | hfsc IqSp-Xep­v |
|  |  | X |  |  |

CXn-\À°w anX-amb tXmXnÂ A[ym-]-I³ Ip«n-I-fpsS Iq«mb ]T-\-{]-hÀ¯-\-¯n\v {]m[m\yw \ÂIp¶p F¶m-Wv.

NB:- Hcp {]kvXm-h-\¡v Hcp {]Xn-I-cWw am{Xw tcJ-s¸-Sp-¯p-I.

\n§-Ä \ÂIp¶ hnh-c-§Ä hfsc cl-ky-am-bn-¯s¶ kq£n-¡p-¶-Xm-sW¶pw Kth-jW Bhiy¯n\p-am-{Xw D]-tbmKn¡p-¶Xpam-bn-cn¡pw.

**{]kvXm-h-\-IÄ**

1. A[ym-]-I³ ¢mÊnÂ {]th-in¨ DS³ \n§-fp-ambn kulr-Z-kw-`m-jWw \S-¯m-dp­v

2. A[ym-]-I³ ]T-\-Im-cy-§Ä¡v ]pdsa aäv Imcy-§Ä \n§-fp-ambn NÀ¨ \S-¯m-dp-­v.

3. ¢mkn\v ]pd¯v sh¨v A[ym-]-I³ ]mTy-hn-j-b-hp-ambn \_Ô-s¸« Imcy-§Ä \n§Ä¡v ]d-ªp-X-cm-dp­v.

4. Imcy-§Ä kzbw Is­-¯m\pw \nK-a-\-¯nÂ F¯n-t¨-cm\pw tNmZy-§Ä tNmZn-¡m-\p-apÅ Ah-kcw A[ym-]-I³ \n§Ä¡v \ÂIm-dp-­v.

5. A[ym-]-I³ \nc-´cw tNmZy§Ä tNmZn-¡p-Ibpw \n§sf Bi-b-¡p-g-¸-¯n-em-¡p-Ibpw sN¿m-dp-­v.

6. Bi-b-hn-\n-abw \Sv¯m\pw kwibw tNmZn-¡m\pw A[ym-]-I³ \n§Ä¡v th­{X Ah-kcw \ÂIm-dp-­v.

7. A[ym]I³ \n§-fpsS c£n-Xm-¡-fp-ambn IqSn-¡mgvN \S-¯p-Ibpw IpSpw-\_-km-l-N-cy-§Ä Bcm-bp-Ibpw sN¿m-dp-­v.

8. \n§-fpsS hyàn-]-c-amb hnZym-`ym-k-{]-iv\-§Ä A[ym-]-IÀ CS-s]-Sm-dp­v

9. \n§-fpsS Ign-hp-I-fnÂ A[ym-]-I³ {]Xo£ ]peÀ¯m-dp-­v.

10. A[ym-]-I³ Bh-iy-amb {Kq¸v Assk³saâp-Ifpw AXn-\p-th­ kqN-I-§fpw klm-b-I-§fpw \n§Ä¡v \ÂIm-dp-­v.

11. \n§-f-psS ]T-\-th-K-Xbpw ]T-\-co-Xnbpw A\p-k-cn-¨mWv A[ym-]-I³ ]T-\-{]-hÀ¯-\-§Ä \S-¯p-¶-Xv.

12. A[ym-]-I³ ¢mÊnÂ hyXykvX ]T-\-{]-hÀ¯-\-¯n\v Bh-iy-amb kuI-cy-§Ä \n§Ä¡v \ÂIm-dp-­v.

13. FÃm-hÀ¡pw Hcp-t]mse ¢mÊnÂ {i²n-¡m³ Ign-bp¶ coXn-bnÂ ¢mÊnse D]-I-c-W-§fpw aäpw A[ym-]-I³ icn-bmbn Hcp-¡m-dp-­v.

14. A[ym-]-I\v FÃm-h-tcbpw {i²n-¡m³ Ign-bp¶ coXn-bnÂ \n§-fpsS Ccn-¸n-S -ku-I-cy-§Ä {Ia-s¸-Sp-¯m-dp-­v.

15. \n§-fpsS ¢mÊv \_l-f-a-b-am-Ip-t¼mÄ AXv DNn-X-ambn \nb-{´n-¡m³ A[ym-]-I\v Ign-bm-dp-­v.

16. ¢mÊnse FÃm Ip«n-I-fp-sSbpw {i² Hcp-t]mse ]T-\-Im-cy-¯nÂ F¯n-¡m³ A[ym-]-I\v Ign-bm-dp-­v.

17. A[ym-]-I³ ¢mÊn-ep-s­-¦nepw \n§Ä \_lfw shbv¡m-dp-­v.

18. ¢mÊnÂ A{i-²-cmbn Ccn-¡p-¶-hsc {]tXyIw Is­¯n Ahsc {i²n-¸n-¡m³ A[ym-]-I³ {ian-¡m-dp-­v.

19. Hmtcm ]T-\-{]-hÀ¯-\-§Ä¡pw ]mT-`m-K-¯n\pw tbmPn¨ Npäp-]mSv A[ym-]-I³ ¢mÊnÂ Hcp-¡m-dp-­v.

20. A[ym-]-I³ \n§-fpsS \ne-hm-c-¯n-emWv ¢mÊv FSp-¡p-¶-Xv.

21. A[ym-]-I³ ]pXnb t\_m[-\-coXn kzoI-cn-¡-dp-­v.

22. \n§-fpsS \_p²n-hn-Im-kv¯n\v Bh-iy-amb Ah-k-c-§fpw {]hÀ¯-\-§fpw A[ym-]-I³ \ÂIm-dp-­v.

23. ]T-t\m-]-I-c-§Ä ssIImcyw sN¿m³ Bh-iy-amb \nÀt±-i-§fpw sse{\_dn D]-tbm-Kn-¡-m\pÅ Ah-k-c-§fpw A[ym-]-I³ \n§Ä¡v \ÂIm-dp-­v.

24. \nK-a-\-§Ä ]p\-:]cntim[n-¡p-¶-Xn\v Bh-iy-amb Ah-kcw A[ym-]-I³ \ÂIm-dp-­v.

25. ]n¶m¡w \nÂ¡p¶ Ip«n-Isf ap³]-´n-bnÂ F¯n-¡m³ Bh-iy-amb sshhn-[y-amÀ¶ ]T-\-{]-hÀ¯-\-§Ä A[ym-]-I³ \ÂIm-dp-­v.

26. A[ym-]-Isâ ¢mÊv \n§Ä¡v hnc-k-ambn tXm¶m-dp-­v.

27. A[ym-]-Isâ t\_m[-\-coXn \n§Ä¡v {]tNm-Z\w \ÂIm-dp-­v.

28. A[ym-]-I³ Iem-þIm-bn-I{]hÀ¯-\-§-fnÂ \n§Ä¡v Bh-iy-amb amÀ¤-\nÀt±-i-§fpw {]tNm-Z-\hpw \ÂIm-dp-­v.

29. A[ym-]-I³ \n§sf ¢mÊnse {][m-\-hy-àn-I-fmbn IW-¡m-¡m-dp-­v.

30. ¢mÊnÂ icn-bp-¯cw ]d-bp-¶-h-tcbpw IqSp-XÂ amÀ¡v hm§p-¶-h-tcbpw A[ym-]-I³ A`n-\-µn-¡m-dp-­v.

31. \n§fpsS Bi-b-§Ä A[ym-]-I³ AwKo-I-cn-¡m-dp-­v.

32. {]tXyI ]mtTy-XcIgn-hpÅ Ip«nIsfIs­¯n AhÀ¡m-h-iy-amb {]tNm-Z-\hpw t{]mÂkm-l-\hpw A[ym-]-I³ \ÂIm-dp-­v.

33. ]mT-`m-K-§fpambn \_Ô-s¸«v \n§Ä Is­-¯nb Imcy-§Ä A[ym-]-Is\ Adnbn-¡p-t¼mÄ At±lw AXv AwKo-I-cn-¡m-dp-­v.

34. ]T-\-{]-hÀ¯-\-§Ä \S¯p-t¼mÄ A[ym-]-I³ \n§-tfmSv AXp-ambn \_Ô-s¸« A`n-{]mbw tNmZn-¡m-dp-­v.

35. ¢mÊnÂ Fs´-¦nepw Xocp-am\saSp¡p¶Xn-\p-ap-¼mbn A[ym-]-I³ AXp-ambn \_Ô-s¸«v \n§-tfmSv NÀ¨ \Sv¯m-dp-­v.

36. \n§Ä¡v amÀ¡v Ipd-bp-hm-\pÅ ImcWw F´m-sW¶v \n§sf t\_m[y-s¸-Sp-¯m³ {ian-¡p-Ibpw IqSp-XÂ amÀ¡v hm§m³ t{]cn¸n¡pIbpw sN¿p¶ hyàn-bmWv \n§-fpsS A[ym-]-I³.

37. \nÊm-cImcy-§Ä¡p-t]mepw \n§-fpsS A[ym-]-I³ \n§sf hg¡v ]d-bm-dp-­v.

38. IrXy-\nÀh-l-W-¯nÂ hogvN hcp-¯n-bmÂ A[ym-]-I³ \n§sf ITn\ambn in£n-¡m-dp­v.

39. ]e coXn-bnepw A[ym-]-I³ \n§sf Ah-K-Wn-¡m-dp-s­¶v tXm¶-p¶p.

40. \n§-fpsS A[ym-]-I³ amÀ¡p Ipdª Ip«n-I-tfmSv hnth-N\w ImWn-¡m-dp-­v.

41. \n§-fp-sS Ign-hn-Ãm-bva-bnÂ A[ym-]-I³ \n§sf Ifn-bm-¡m-dp-­v.

42. amÀ¡v Ipd-bp¶ Ip«n-Isf A[ym-]-I³ ITn-\-ambn in£n-¡m-dp-­v.

43. t\cn-«p-ÅXpw ka-{K-hp-amb ]T-\-{]-hÀ¯-\-§Ä A[ym-]-I³ \n§Ä¡v \ÂIm-dp-­v.

44. \n§Ä¡v Hä¡v ]Tn-¡m\pw kwLw tNÀ¶v ]Tn-¡m\pw Bh-iy-amb kuIcyw A[ym-]-I³ Hcp-¡n-¯-cm-dp-­v.

45. \n§-fpsS B{K-l-§fpw kwi-b-§fpw Xpd¶p ]d-bp-¶-Xn\pw {]hÀ¯\-§-fnÂ \n§-fp-tSXmb hgn-IÄ sXsc-sª-Sp-¡p-¶-Xn\pw A[ym-]-I³ A\p-h-Zn-¡m-dp-­v.

46. \n§Ä¡v Bh-iy-ap-Å-t¸mÄ \n§-fp-ambn kl-I-cn¨v {]hÀ¯n-¡m³ A[ym-]-I³ {ian-¡m-dp-­v.

47. \n§Ä¡nSbnÂ kl-I-c-W-a-t\m-`mhw hf-cp¶ coXn-bn-epÅ {]hÀ¯-\-§Ä ImgvN-sh-bv¡m³ A[ym-]-I\v Ign-bp-¶p-­v.

48. \n§Ä¡v AwKo-I-cn-¡m³ ]äm¯ kz`mhw A[ym-]-I\p­v.

49. \n§-fpsS {]hÀ¯-\-§Ä¡v icn-bmb taÂt\m«w hln-¡p-Ibpw FÃm-h-tcbpw Hcp-t]mse klm-bn-¡m³ {ian-¡p-Ibpw sN¿p¶ BfmWv \n§-fp-sS A[ym-]-I³.

50. \n§-fp-sS A[ym-]-I³ kmap-ln-I-{]-hÀ¯-\-§-fnÂ ]s¦-Sp-¡p-Ibpw \n§sf AXnÂ DÄs¸-Sp-¯p-Ibpw th­ D]-tZ-i-§Ä \ÂIp-Ibpw sN¿m-dp-­v.

51. kaq-l-¯nÂ ap³]-´n-bnÂ \nÂ¡p¶ hyàn-Isf ]T-\-{]-hÀ¯-\-hp-ambn \_Ô-s¸«v ¢mÊnÂ sIm­p-h-cm³ A[ym-]-I³ {ian-¡m-dp-­v.

52. \n§-fp-sS A[ym-]-I³ aäv A[ym-]-Icpambn \Ã \_Ôw ]peÀ¯m-dp-­v.

53. A[ym-]-I³ \n§-fpsS D¶-a-\-¯n\v klm-b-I-amhpw hn[w ]n.Sn.F. {]hÀ¯-\-§Ä Bkq-{XWw sN¿p-Ibpw \S¸nem-¡p-Ibpw sN¿m-dp-­v.

54. ¢mÊv apdn-bnepw ]pd¯pw kzX-{´-ambn ]Tn-¡m³ A[ym-]-I³ \n§sf A\p-h-Zn-¡m-dp-­v.

55. A¨-S-¡-¯nsâ t]cnÂ A[ym-]-I³ \n§sf hnhn-[-{]-hÀ¯-\-§-fnÂ \n¶pw ]n³Xn-cn-¸n-¡m-dp-­v.

56. \n§-fp-sS kÀ¤m-ß-I-amb Ignhv hfÀ¯m³ Bh-iy-amb kzmX-{´yhpw Ah-k-chpw A[ym-]-I³ \n§Ä¡v \ÂIm-dp-­v.

57. Hmtcm ]mT-`mKw Ign-bp-t¼mgpw A[ym-]-I³ \n§tfmSv tNmZy-w tNmZn-¡p-Itbm ]co£ \S-¯p-Itbm sN¿m-dp-­v.

58. ¢mÊnÂ \¶mbn ]Tn-¡p-¶-h-tcm-Sp-am{Xw tNmZyw tNmZn-¡pI F¶ ioew \n§-fpsS A[ym-]-I\v D­v.

59. ap³\_-©n-en-cn-¡p-¶-h-tcmSv tNmZyw tNmZn-¡p-Ibpw ]nd-Inencn¡p-¶-hsc Ah-K-Wn-¡p-Ibpw sN¿p¶ ioew A[ym-]-I\p­v.

60. \n§Ä¡v s]s«¶v a\-Ên-em-Ip¶ coXn-bn-emWv A[ym-]-I³ tNmZy-§Ä tNmZn-¡p-¶-Xv.

61. D¯cw ]d-bm-¯-h-tcbpw A[ym-]-I³ Ccn¡m³ A\p-h-Zn-¡m-dp-­v.

62. D¯cw sXämbn ]d-bp-Itbm ]d-bm-Xn-cn-¡p-Itbm sN¿p¶ Ip«n-IÄ¡v icnbp¯cw ]d-bp-¶-Xn-\pÅ Ah-kcw A[ym-]-I³ \ÂIm-dp-­v.

63. \n§Ä t\cn-Sp¶ GXv {]iv\hpw tIÄ¡m\pw Ahbv¡v Bh-iyamb \nÀt±-i-§Ä \ÂIm\pw \n§-fpsS A[ym-]-I³ {ian-¡m-dp-­v.

64. km¼-¯n-I-ambn \_p²n-ap-«pÅ Ah-k-c-§-fnÂ \n§-fp-sS A[ym-]-I³ \n§sf klm-bn-¡m-dp-­v.

65. \n§Ä hfsc hnj-an-¨n-cn-¡p¶ Ah-k-c-§-fnÂ A[ym-]-Isâ km¶n²yw \n§Ä¡v km´z-\-ambn tXm¶m-dp-­v.

66. \n§Ä t\cn-Sp¶ GXp {]iv\-¯n\pw ]cn-lmcw Is­-¯m³ \nb-{´-W-§-fn-Ãm¯ klmbw A[ym-]-I³ \ÂIm-dp-­v.

67. \n§-fp-sS A[ym-]-I³ Hcp amXr-Im-[ym-]I\msW¶v \n§Ä¡v tXm¶p-¶p-­v.

68. \n§-fpsS Ign-hv a\-Ên-em¡n D¶-X-hn-Zym-`ym-k-¯n-\m-h-iy-amb amÀ¤-\nÀt±-i-§Ä A[ym-]-I³ \n§Ä¡v \ÂIm-dp-­v.

69. ¢mÊv ka-b¯v A[ym-]-Isâ A`mhw \n§-fnÂ hnjaw D­m-¡m-dp-­v.

70 .\n-§-tfmSpw tPmen-tbmSpw A[ym-]-I³ BßmÀ°X ImWn-¡m-dp-­v.

71. hm¡p-I-fnepw {]hÀ¯n-I-fnepw A[ym-]-I³ kXy-k-ÔX ImWn-¡m-dp-­v.

72. \n§-tfmSpw aäp-Å-h-tcmSpw A[ym-]-I³ £a-tbm-Sp-IqSn s]cp-am-dm-dp-­v.

73. A[ym-]-I³ kz´w Xocp-am-\-§-fnÂ ISpw]nSp¯w ImWn-¡msX hn«p-ho-gv¨¡v X¿m-dm-hm-dp-­v.

74. A[ym-]-I³ Xsâ {]hÀ¯-\-§-fnÂ A¨-S¡w ImWn-¡p-Ibpw \n§sf AXn-te¡v \bn-¡p-Ibpw sN¿m-dp-­v.

75. \n§sf {i²n-¡m\pw kwc-£n-¡m-\p-apÅ a\:ØnXn A[ym-]-I\p­v.

76. A[ym-]-I³ ]£-]mXw ImWn-¡m-dp-­v.

77. \n§-fp-sS A[ym-]-I³ sXäp-Ipäw ImWn-¡p-¶-h-tcmSpw t]mcmbva DÅ-h-tcmSpw Zbm-]qÀÆw s]cp-am-dm-dp-­v.

78. \n§-fpsS Ign-hp-Ifpw ]cn-an-Xn-I-fpw a\-Ên-em¡n A[ym-]-I³ s]cp-am-dm-dp-­v.

79. \n§-fpsS A[ym-]-I\v At±-l-¯nsâ hnj-b-¯nÂ Bg-¯n-epÅ Adnhv Ds­¶v tXm¶p-¶n-Ã.

80. \n§-tfmSv D¯-c-hm-Zn-Xz-t¯mSpw Nn«-tbm-Sp-wIqSn A[ym-]-I³ s]cp-am-dmdp-­v.

81. \n§-fpsS A[ym-]-I\v ^enXw ]d-bm\pw Bkz-Zn-¡m-\p-apÅ Ign-hp-­v.

82. \n§-fpsS A[ym-]-I³ thj-¯nepw `mh-¯nepw kw`m-j-W-¯nepw s]cp-am-ä-¯nepw emfnXyw ImWn-¡m-dp-­v.

83. \n§-tfmSpw tPmen-tbmSpw A[ym-]-I³ hn«p-ho-gvN-bn-Ãm¯ {]Xn-\_-²X ImWn-¡m-dp-­v.

84. A[ym-]-\w Imcy-£-a-am-¡m\pw ck-I-c-am-¡m\pw DÅ Bi-b-k-ar²n \n§-fp-sS A[ym-]-I\v D­v.

85. \n§-fp-s#S A[ym-]-I³ kam-\-km-l-N-cy-§fnÂ Xocp-am-\-§-fnepw {]hÀ¯n-I-fnepw kz`m-h-¯nepw Ønc-X ImWn¡mdp­v.

86. \n§-fpsS D¶-a-\-¯nÂ (hn-P-b-¯nÂ) A[ym-]-I³ iq`-{]-Xo-£-h-¨p-]p-eÀ¯mdp­v.

87. A[ym-]-I³ kz´w Ign-hnÂ hnizmkw {]I-Sn-¸n-¡m-dp-­v.

88. A[ym-]-I³ Xsâ IqsS-bp-Å-hsc \bn-¡p-Ibpw aäp-Å-h-cmÂ AwKo-I-cn-¡-s¸-Sp-Ibpw sN¿m-dp-­v.

89. A[ym-]-I³ \n§-tfmSv kl-{]-hÀ¯-I-tcmSpw Hs¯m-cp-an¨v {]hÀ¯n-¡m-dp-­v.

90. A[ym-]-I\v {]Xn-\_-Ô-§sf ap³Iq«n ImWm\pw AXns\ XcWw sN¿m-\p-apÅ a\:k¶-²X D­v.

91. Btcbpw GXp-k-a-b¯pw X\n-¡mhpw hn[w klm-bn-¡m-\pÅ a\:ØnXn \n§-fpsS A[ym-]-I\v D­v.

92. hyXykvX kz`m-h-hn-ti-j-§Ä, ImgvN-¸m-Sp-IÄ, s]cp-am-ä-§Ä, coXn-IÄ, `mjm-hy-Xymkw F¶nh DÄs¡m-Åm-\pÅ Ignhv A[ym-]-I\p­v.

93. \n§-fpsS A[ym-]-I\v \n§-tfmSpw kl-{]-hÀ¯-I-tcmSpw kµÀt`m-Nn-X-ambn tbmPn-¨p-t]m-Im-\pÅ Ign-hp-­v.

94. A[ym-]-I³ kv¡qfnÂ IrXy-\njvT ]men-¡p-Ibpw ]mT-`mKw IrXy-k-a-b¯v XoÀ¡p-I-bpw sN¿m-dp-­v.

95. \n§-fp-sS A[ym-]-I³ hnizm-k-tbm-Kyamb Imcyw BcnÂ \n¶pw kzoI-cn-¡p-Ibpw Xsâ sXäp-Ip-ä-§Ä Xpd¶p k½-Xn-¡p-Ibpw sN¿m-dp-­v.

96. kl-{]-hÀ¯-I-tcmSpw Ip«n-I-tfmSpw A[ym-]-I³ hnth-N\w ImWn-¡m-dp-­v.

97. A[ym-]-I³ imkv{X-tafbv¡v {]ZÀin¸n¡m-\m-h-iy-amb {]ZÀi-\-h-kvXp-¡Ä \nÀ½n-¡m-dp-­v.

98. A[ym-]-I³ X\n-¡-dn-bm¯ Imcy-§Ä BcpsS ap¶nepw Xpd¶v k½-Xn-¡m-dp-­v.

99. A[ym-]-IÀ¡nS-bnepw Ip«n-IÄ¡n-S-bnepw D­m-Ip¶ {]iv\-§Ä ^e-{]-Z-ambn ]cn-l-cn-¡m³ \n§-fp-sS A[ym-]-I\v Ign-bm-dp-­v.

100. A[ym-]-I³ Npäp-]m-Sns\ a\-Ên-em¡n AX\p-k-c#n¨v {]hÀ¯n-¡m-dp-­v.

**RESPONSE SHEET**

**hyàn-]-c-amb hnh-c-§Ä: hnZym-e-b-]-c-amb hnh-c-§Ä:**

t]cv : ………………………. hnZyme-b-¯nsâ t]cv: ……………

hbÊv: ……………………… Øew : ]©m-b¯v/ap³kn-¸m-enän/

tImÀ¸td-j³

B¬Ip«n/s]¬Ip«n Kh¬saâv/FbvUUv/A¬-F-bvUUv

B¬Ip-«n-Ifpw s]¬Ip-«n-Ifpw/

B¬Iq-«n-IÄ/ s]¬Ip-«n-IÄ

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| Sl. No. | **Xosc CÃ** | **Ipd¨v D­v** | **icm-icn** | **IqSp-X-ep­v** | **hfsc IqSp-XÂ** |  | Sl. No. | **Xosc CÃ** | **Ipd¨v D­v** | **icm-icn** | **IqSp-X-ep­v** | **hfsc IqSp-XÂ** |
| 1 | 🞎 | 🞎 | 🞎 | 🞎 | 🞎 |  | 2 | 🞎 | 🞎 | 🞎 | 🞎 | 🞎 |
| 3 | 🞎 | 🞎 | 🞎 | 🞎 | 🞎 |  | 4 | 🞎 | 🞎 | 🞎 | 🞎 | 🞎 |
| 5 | 🞎 | 🞎 | 🞎 | 🞎 | 🞎 |  | 6 | 🞎 | 🞎 | 🞎 | 🞎 | 🞎 |
| 7 | 🞎 | 🞎 | 🞎 | 🞎 | 🞎 |  | 8 | 🞎 | 🞎 | 🞎 | 🞎 | 🞎 |
| 9 | 🞎 | 🞎 | 🞎 | 🞎 | 🞎 |  | 10 | 🞎 | 🞎 | 🞎 | 🞎 | 🞎 |
| 11 | 🞎 | 🞎 | 🞎 | 🞎 | 🞎 |  | 12 | 🞎 | 🞎 | 🞎 | 🞎 | 🞎 |
| 13 | 🞎 | 🞎 | 🞎 | 🞎 | 🞎 |  | 14 | 🞎 | 🞎 | 🞎 | 🞎 | 🞎 |
| 15 | 🞎 | 🞎 | 🞎 | 🞎 | 🞎 |  | 16 | 🞎 | 🞎 | 🞎 | 🞎 | 🞎 |
| 17 | 🞎 | 🞎 | 🞎 | 🞎 | 🞎 |  | 18 | 🞎 | 🞎 | 🞎 | 🞎 | 🞎 |
| 19 | 🞎 | 🞎 | 🞎 | 🞎 | 🞎 |  | 20 | 🞎 | 🞎 | 🞎 | 🞎 | 🞎 |
| 21 | 🞎 | 🞎 | 🞎 | 🞎 | 🞎 |  | 22 | 🞎 | 🞎 | 🞎 | 🞎 | 🞎 |
| 23 | 🞎 | 🞎 | 🞎 | 🞎 | 🞎 |  | 24 | 🞎 | 🞎 | 🞎 | 🞎 | 🞎 |
| 25 | 🞎 | 🞎 | 🞎 | 🞎 | 🞎 |  | 26 | 🞎 | 🞎 | 🞎 | 🞎 | 🞎 |
| 27 | 🞎 | 🞎 | 🞎 | 🞎 | 🞎 |  | 28 | 🞎 | 🞎 | 🞎 | 🞎 | 🞎 |
| 29 | 🞎 | 🞎 | 🞎 | 🞎 | 🞎 |  | 30 | 🞎 | 🞎 | 🞎 | 🞎 | 🞎 |
| 31 | 🞎 | 🞎 | 🞎 | 🞎 | 🞎 |  | 32 | 🞎 | 🞎 | 🞎 | 🞎 | 🞎 |
| 33 | 🞎 | 🞎 | 🞎 | 🞎 | 🞎 |  | 34 | 🞎 | 🞎 | 🞎 | 🞎 | 🞎 |
| 35 | 🞎 | 🞎 | 🞎 | 🞎 | 🞎 |  | 36 | 🞎 | 🞎 | 🞎 | 🞎 | 🞎 |
| 37 | 🞎 | 🞎 | 🞎 | 🞎 | 🞎 |  | 38 | 🞎 | 🞎 | 🞎 | 🞎 | 🞎 |
| 39 | 🞎 | 🞎 | 🞎 | 🞎 | 🞎 |  | 40 | 🞎 | 🞎 | 🞎 | 🞎 | 🞎 |
| 41 | 🞎 | 🞎 | 🞎 | 🞎 | 🞎 |  | 42 | 🞎 | 🞎 | 🞎 | 🞎 | 🞎 |
| 43 | 🞎 | 🞎 | 🞎 | 🞎 | 🞎 |  | 44 | 🞎 | 🞎 | 🞎 | 🞎 | 🞎 |
| 45 | 🞎 | 🞎 | 🞎 | 🞎 | 🞎 |  | 46 | 🞎 | 🞎 | 🞎 | 🞎 | 🞎 |
| 47 | 🞎 | 🞎 | 🞎 | 🞎 | 🞎 |  | 48 | 🞎 | 🞎 | 🞎 | 🞎 | 🞎 |

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| Sl. No. | **Xosc CÃ** | **Ipd¨v D­v** | **icm-icn** | **IqSp-X-ep­v** | **hfsc IqSp-XÂ** |  | Sl. No. | **Xosc CÃ** | **Ipd¨v D­v** | **icm-icn** | **IqSp-X-ep­v** | **hfsc IqSp-XÂ** |
| 49 | 🞎 | 🞎 | 🞎 | 🞎 | 🞎 |  | 50 | 🞎 | 🞎 | 🞎 | 🞎 | 🞎 |
| 51 | 🞎 | 🞎 | 🞎 | 🞎 | 🞎 |  | 52 | 🞎 | 🞎 | 🞎 | 🞎 | 🞎 |
| 53 | 🞎 | 🞎 | 🞎 | 🞎 | 🞎 |  | 54 | 🞎 | 🞎 | 🞎 | 🞎 | 🞎 |
| 55 | 🞎 | 🞎 | 🞎 | 🞎 | 🞎 |  | 56 | 🞎 | 🞎 | 🞎 | 🞎 | 🞎 |
| 57 | 🞎 | 🞎 | 🞎 | 🞎 | 🞎 |  | 58 | 🞎 | 🞎 | 🞎 | 🞎 | 🞎 |
| 59 | 🞎 | 🞎 | 🞎 | 🞎 | 🞎 |  | 60 | 🞎 | 🞎 | 🞎 | 🞎 | 🞎 |
| 61 | 🞎 | 🞎 | 🞎 | 🞎 | 🞎 |  | 62 | 🞎 | 🞎 | 🞎 | 🞎 | 🞎 |
| 63 | 🞎 | 🞎 | 🞎 | 🞎 | 🞎 |  | 64 | 🞎 | 🞎 | 🞎 | 🞎 | 🞎 |
| 65 | 🞎 | 🞎 | 🞎 | 🞎 | 🞎 |  | 66 | 🞎 | 🞎 | 🞎 | 🞎 | 🞎 |
| 67 | 🞎 | 🞎 | 🞎 | 🞎 | 🞎 |  | 68 | 🞎 | 🞎 | 🞎 | 🞎 | 🞎 |
| 69 | 🞎 | 🞎 | 🞎 | 🞎 | 🞎 |  | 70 | 🞎 | 🞎 | 🞎 | 🞎 | 🞎 |
| 71 | 🞎 | 🞎 | 🞎 | 🞎 | 🞎 |  | 72 | 🞎 | 🞎 | 🞎 | 🞎 | 🞎 |
| 73 | 🞎 | 🞎 | 🞎 | 🞎 | 🞎 |  | 74 | 🞎 | 🞎 | 🞎 | 🞎 | 🞎 |
| 75 | 🞎 | 🞎 | 🞎 | 🞎 | 🞎 |  | 76 | 🞎 | 🞎 | 🞎 | 🞎 | 🞎 |
| 77 | 🞎 | 🞎 | 🞎 | 🞎 | 🞎 |  | 78 | 🞎 | 🞎 | 🞎 | 🞎 | 🞎 |
| 79 | 🞎 | 🞎 | 🞎 | 🞎 | 🞎 |  | 80 | 🞎 | 🞎 | 🞎 | 🞎 | 🞎 |
| 81 | 🞎 | 🞎 | 🞎 | 🞎 | 🞎 |  | 82 | 🞎 | 🞎 | 🞎 | 🞎 | 🞎 |
| 83 | 🞎 | 🞎 | 🞎 | 🞎 | 🞎 |  | 84 | 🞎 | 🞎 | 🞎 | 🞎 | 🞎 |
| 85 | 🞎 | 🞎 | 🞎 | 🞎 | 🞎 |  | 86 | 🞎 | 🞎 | 🞎 | 🞎 | 🞎 |
| 87 | 🞎 | 🞎 | 🞎 | 🞎 | 🞎 |  | 88 | 🞎 | 🞎 | 🞎 | 🞎 | 🞎 |
| 89 | 🞎 | 🞎 | 🞎 | 🞎 | 🞎 |  | 90 | 🞎 | 🞎 | 🞎 | 🞎 | 🞎 |
| 91 | 🞎 | 🞎 | 🞎 | 🞎 | 🞎 |  | 92 | 🞎 | 🞎 | 🞎 | 🞎 | 🞎 |
| 93 | 🞎 | 🞎 | 🞎 | 🞎 | 🞎 |  | 94 | 🞎 | 🞎 | 🞎 | 🞎 | 🞎 |
| 95 | 🞎 | 🞎 | 🞎 | 🞎 | 🞎 |  | 96 | 🞎 | 🞎 | 🞎 | 🞎 | 🞎 |
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| 99 | 🞎 | 🞎 | 🞎 | 🞎 | 🞎 |  | 100 | 🞎 | 🞎 | 🞎 | 🞎 | 🞎 |

**APPENDIX V**

**FAROOK TRAINING COLLEGE**

**P.O. FAROOK COLLEGE**

**CALICUT**

**TEACHER-PUPIL RELATIONSHIP SCALE - 2005**

**[TEACHER VERSION - FINAL]**

**K.P. MOHAMED ISHAQ RANJITHA. T**

Selection Grade Lecturer M.Ed. Student

Farook Training College Farook Training College

**\nÀt±-i-§Ä**

A[ym-]-I-þ-hn-ZymÀ°n \_Ôs¯ kqNn-¸n-¡p¶ {]Øm-h-\-IÄ Xmsg sImSp¯n-cn-¡p-¶p. AXn\v \n§-fpsS {]Xn-I-cWw X¶n-cn-¡p¶ D¯-c-¡-S-em-knÂ A©v hn`m-K-§-fnÂ "Xosc CÃ', "Ipd¨v D­v', "icm-icn', "IqSp-XÂ D­v', "hfsc IqSp-XÂ D­v' CXnÂ GXm-sW¶v KpW-\-NnÓw (X) -D]-tbmKn¨v D¯-c-¡-S-em-knse tImf¯nÂ tcJ-s¸-Sp-¯p-I. {]kvXm-h-\-]-{X-¯nÂ H¶pw-Xs¶ Fgp-X-cp-Xv.

A[ym-]-I-þ-hn-ZymÀ°n-\_-Ô-¯nÂ Ds­¶v \n§Ä Icp-Xp¶ Hcp LSIw, DZm-l-cWambn Bi-b-hn-\n-abw - (Communication) -Aev]w-t]mepw CsÃ-¦nÂ "Xosc CÃ' F¶pw Aev]w Ds­-¦nÂ "Ipd¨v D­v' F¶pw anX-amb tXmXnÂ Ds­-¦nÂ "icm-icn' F¶pw icm-i-cn-tb-¡mÄ IqSp-XÂ Ds­-¦nÂ "IqSp-XÂ D­v' F¶pw, \¶mbn Ds­-¦nÂ "hfsc IqSp-XÂ D­v' F¶pamWv tcJ-s¸-Sp-t¯-­-Xv.

DZm-l-cWw :þ \n§Ä Ip«n-I-fpsS Iq«mb ]T-\-{]-hÀ¯-\-¯n\v IqSp-XÂ   
 {]m[m\yw \ÂIp-¶p-­v.

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| Xosc CÃ | Ipd¨v D­v | icm-icn | IqSp-Xep­v | hfsc IqSp-Xep­v |
|  |  | X |  |  |

CXn-\À°w anX-amb tXmXnÂ \n§Ä Ip«n-I-fpsS Iq«mb ]T-\-{]-hÀ¯-\-¯n\v {]m[m\yw \ÂIp¶p F¶m-Wv.

NB:- Hcp {]kvXm-h-\¡v Hcp {]Xn-I-cWw am{Xw tcJ-s¸-Sp-¯p-I.

\n§Ä \ÂIp¶ hnh-c-§Ä hfsc cl-ky-am-bn-¯s¶ kq£n-¡p-¶-Xm-sW¶pw Kth-jW Bhiy¯n\p-am-{Xsa D]-tbmKn¡p-I-bpÅp F¶pw CXn-\mÂ t\_m[ys¸-Sp-¯p-¶p.

**{]kvXm-h-\-IÄ**

1. \n§Ä ¢mÊnÂ {]th-in-¨-bp-S³ Ip«n-I-fp-ambn kulr-Z-kw-`m-jWw \S-¯m-dp-­v.

2. \n§Ä ]T-\-Im-cy-§Ä¡p-]p-dta aäpImcy-§fpw Ip«n-I-fp-ambn NÀ¨ \S-¯m-dp-­v.

3. ¢mÊn-\p-]p-d-¯p-h¨v \n§Ä ]mTy-hn-j-b-hp-ambn \_Ô-s¸« Imcy-§Ä Ip«n-IÄ¡p ]d-ªp-sImSp¡m-dp-­v.

4. Imcy-§Ä kzbwIs­-¯m\pw, \nK-a-\-¯n-se-¯n-t¨-cm\pw tNmZy§Ä tNmZn¡m\pw th­{X Ah-k-c-§Ä \n§Ä Ip«n-IÄ¡p \ÂIm-dp-­v.

5. \n§Ä Ip«n-I-tfmSv \nc-´cw tNmZy§Ä tNmZn¡p-Ibpw Ahsc Bi-b-¡p-g-¸-¯n-em-¡p-Ibpw sN¿m-dp-­v.

6. Bi-b-hn-\n-abw \S-¯m-\pw, kwibw tNmZn¡m-\p-apÅ Ah-kcw \n§Ä Ip«n-IÄ¡p \ÂIm-dp-­v.

7. \n§Ä Ip«n-I-fpsS c£n-Xm-¡-fp-ambn IqSn-¡mgvN \S-¯p-Ibpw IpSpw-\_ kmlN-cy-§Ä Bcm-bp-Ibpw sN¿m-dp-­v.

8. Ip«n-I-fpsS hyàn-]-c-amb hnZym-`ym-k-{]-iv\-§-fnÂ \n§Ä CS-s]-Smdp­v.

9. \n§Ä Ip-«n-I-fpsS Ign-hp-I-fnÂ {]Xo£ ]peÀ¯p-Ibpw AhÀ AXn-s\m¯p hf-cp-Ibpw sN¿p-¶p-­v.

10. \n§Ä Ip«n-IÄ¡v Bh-iy-amb {Kq¸v Assk³saâp-Ifpw AXn-\p-th­ kqN-I-§fpw klm-b-§fpw \ÂIm-dp-­v.

11. Ip«n-I-fpsS ]T-\-th-K-Xbpw ]T-\-co-Xnbpw A\p-k-cn-¨mWv \n§Ä ]T-\-{]-hÀ¯-\-§Ä \S-¯p-¶-Xv.

12. \n§Ä ¢mÊnÂ hyXykvX ]T-\-{]-hÀ¯-\-¯n-\m-h-iy-amb {]tXyI kuI-cy-§Ä Ip«n-IÄ¡v Hcp-¡n-s¡mSp¡m-dp-­v.

13. FÃm-hÀ¡pw Hcp-t]mse ¢mÊnÂ {i²n-¡m³ Ign-bp¶ coXn-bnÂ ¢mÊnse D]-I-c-W-§Ä icn-bmbn Hcp-¡m³ \n§Ä {ian-¡m-dp-­v.

14. \n§Ä¡v FÃm-h-scbpw Hcp-t]mse {i²n-¡m³ Ign-bp¶ coXn-bnÂ Ccn-¸n-S-ku-I-cy-§-fnÂ amäw hcp-¯m³ {ian-¡m-dp-­v.

15. ¢mÊv \_l-f-a-b-am-Ip-t¼mÄ AXv DNn-X-ambn \nb-{´n-¡m³ \n§Ä¡v Ign-bm-dp-­v.

16. ¢mÊnse FÃm Ip«n-I-fp-sSbpw {i² Hcp-t]mse ]T-\-Im-cy-¯nÂ F¯n-¡m³ \n§Ä¡p Ign-bp¶p-­v.

17. \n§Ä ¢mÊn-ep-s­-¦nepw Ip«n-IÄ \_lfw shbv¡m-dp-­v.

18. ¢mÊnÂ A{i-²-cm-bn-cn-¡p-¶-hsc {]tXyIw Is­¯n ¢mÊnÂ {i²n-¸n-¡m³ {ian-¡m-dp-­v.

19. Hmtcm ]T-\-{]-hÀ¯-\-¯n\pw ]mT-`m-K-¯n\pw tbmPn¨ Npäp-]mSv \n§Ä ¢mÊnÂ Hcp-¡m-dp-­v.

20. \n§Ä Ip«n-I-fpsS \ne-hm-c-¯n-emWv ¢msÊ-Sp-¡p-¶-Xv.

21. \n§Ä ]pXnb t\_m[\-coXnIÄ kzoI-cn-¡m-dp-­v.

22. Ip«n-I-fpsS \_q²n-hn-Im-k-¯n-\m-h-iy-amb Ah-k-c-§fpw {]hÀ¯-\-§fpw \n§Ä \ÂIm-dp-­v.

23. ]T-\-D-]-I-c-W-§Ä ssIIm-cy-wsN-¿m\mhiy-amb \nÀt±-i-§fpw sse{\_dn D]-tbmKn¡m-\pÅ Ah-k-c-§fpw \n§Ä Ip«n-IÄ¡v \ÂIm-dp-­v.

24. \nK-a-\-§Ä ]p\x-]-cn-tim[n¡p-¶-Xn\v Bh-iy-amb Ah-kcw \n§Ä Ip«n-IÄ¡p \ÂIm-dp­v.

25. \n§-fpsS ¢mÊv Ip«n-IÄ¡v hnc-k-ambn tXm¶p¶p-­v.

26. ]n¶m¡w \nÂ¡p¶ Ip«n-Isf ap³]-´n-bn-se-¯n-¡m³ Bh-iy-apÅ sshhn-[y-amÀ¶ ]T-\-{]-hÀ¯-\-§Ä \n§Ä AhÀ¡v \ÂIm-dp-­v.

27. \n§-fpsS t\_m[\-coXn Ip«n-IÄ¡v th­{X {]tNmZ\w \ÂIp-¶p-­v.

28. Iem-þ-Im-bnI {]hÀ¯-\-§-fnÂ Bh-iy-amb amÀ¤-\nÀt±-i-§fpw {]tNmZ\-hpw \n§Ä Ip«nIÄ¡v \ÂIm-dp-­v.

29. \n§Ä ¢mÊnse Hmtcm Ip«nsbbpw Hmtcm {][m\ hyàn-bmbn ImW-m-dp-­v.

30. ¢mÊnÂ icn-bp-¯cw ]d-bp-¶-h-scbpw IqSp-XÂ amÀ¡v hm§p-¶-h-scbpw \n§Ä A`n-\-µn-¡m-dp-­v.

31. Ip«n-I-fpsS GXp Bi-b-§-sfbpw \n§Ä AwKo-I-cn-¡m-dp-­v.

32. \n§Ä {]tXyI ]mtTy-X-c-I-gn-hp-I-fpÅ Ip«n-Isf Is­¯n AhÀ¡v Bh-iy-amb {]tNmZ\hpw t{]mÕml-\hpw \ÂIm-dp-­v.

33. ]mT-`m-K-hp-ambn \_Ô-s¸«v Ip«n-IÄ Is­-¯nb Imcy-§Ä \n§sf ImWn-¡p-t¼mÄ \n§Ä AXv AwKo-I-cn-¡m-dp-­v.

34. Hmtcm ]T-\-{]-hÀ¯-\-§-fnepw \n§Ä Ip«n--I-tfmSv AXp-ambn \_Ô-s¸« A`n-{]mbw Bcm-bm-dp-­v.

35. \n§Ä ¢mÊnÂ Fs´-¦nepw Xocq-am-\-sa-Sp-¡p-¶-Xn-\p-ap-¼mbn AXp-ambn \_Ô-s¸«v Ip«n-I-tfmSv NÀ¨ \S-¯m-dp-­v.

36. \n§Ä amÀ¡p-Ip-d-bp¶ Ip«n-IÄ¡v AXn-\pÅ ImcWw F´m-sW¶v t\_m[ys¸-Sp-¯n-s¡mSp¡p-Ibpw IqSp-XÂ amÀ¡v hm§p-¶-X-n\v Ahsc t{]mÕmln-¸n-¡p-Ibpw sN¿m-dp-­v.

37. \nkm-c-Im-cy-§Ä¡p-t]mepw \n§Ä Ip«n-Isf hg-¡p-]-d-bm-dp-­v.

38. IrXy-\nÀÆ-l-W-¯nÂ hogvN hcp-¯n-bmÂ \n§Ä Ip«n-Isf ITn-\-ambn in£n-¡m-dp-­v.

39. GsX-¦nepw coXn-bnÂ \n§Ä Ip«n-Isf Ah-K-Wn-¡m-dp-­v.

40. \n§Ä amÀ¡p Ipdª Ip«n-I-tfmSv hnth-N\w ImWn-¡m-dp-­v.

41. \n§Ä Ip«n-I-fpsS Ign-hn-Ãm-bva-bnÂ Ahsc Ifn-bm-¡m-dp-­v.

42. amÀ¡p-Ip-d-bp¶ Ip«n-Isf \n§Ä ITn-\-ambn in£n-¡m-dp-­v.

43. t\cn-«p-ÅXpw ka-{K-hp-amb ]T-\-{]-hÀ¯-\-§Ä \n§Ä Ip«n-IÄ¡p \ÂIm-dp-­v.

44. Ip«n-IÄ¡p Häbv¡p ]Tn-¡p-hm\pw kwLw tNÀ¶v ]Tn-¡p-hm\pw Bh-iy-amb kuI-cy-§Ä \n§Ä Hcp-¡n-s¡mSp¡m-dp-­v.

45. Ip«n-I-fpsS B{K-l-§fpw kwi-b-§fpw Xpd-¶p-]-dbp¶Xn\pw {]hÀ¯-\-§-fnÂ Ah-cp-tS-Xmb hgn-IÄ sXc-sª-Sp-¡p-¶-Xn\pw \n§Ä A\p-h-Zn-¡m-dp-­v.

46. Ip«nIÄ¡v Bh-iy-ap-Å-t¸mÄ Ah-cp-ambn kl-I-cn-¨p-{]-hÀ¯n-¡m³ \n§Ä {ian-¡m-dp-­v.

47. Ip«n-IÄ¡n-S-bnÂ kl-I-c-W-a-t\m`mhw hf-cp-¶-co-Xn-bnepÅ {]hÀ¯-\-§Ä ImgvN-sh-¡m³ \n§Ä¡v Ign-bp-¶p-­v.

48. Ip«n-IÄ¡v AwKo-I-cn-¡m³ ]äm¯ GsX-¦nepw kz`mhw \n§Ä¡pÅXmbn A\p-`-hs¸-Sp-¶p-­v.

49. \n§Ä Ip«n-I-fpsS {]hÀ¯-\-§Ä¡v icn-bmb taÂt\m«w hln-¡p-Ibpw, FÃm-h-scbpw Hcp-t]mse klm-bn-¡m³ {ian-¡p-Ibpw sN¿p-¶p-­v.

50. \n§Ä kmaq-ln-I-{]-hÀ¯-\-§-fnÂ ]s¦-Sp-¡p-I-bpw, Ip«n-Isf AXnÂ DÄs¸-Sp-¯p-Ibpw th­ D]-tZiw \ÂIp-Ibpw sN¿m-dp-­v.

51. kaq-l-¯nÂ ap³]-´n-bnÂ \nÂ¡p¶ hyàn-Isf ]T-\-{]-hÀ¯-\-hp-ambn \_Ô-s¸«v ¢mÊnÂ sIm­ph-cm-dp-­v.

52. \n§Ä aäv A[ym-]-I-cp-ambn \Ã \_Ôw ]peÀ¯m-dp-­v.

53. Ip«n-I-fpsS D¶-a-\-¯n\v klm-b-I-am-hpw-hn[w ]n.-Sn.F {]hÀ¯-\-§Ä Bkq-{XWw sN¿p-Ibpw \S-¸n-em-¡p-Ibpw sN¿m-dp-­v.

54. ¢mÊvap-dn-bnepw ]pd¯pw kzX-{´-ambn ]Tn-¡m³ \n§Ä Ip«n-Isf A\p-h-Zn-¡m-dp-­v.

55. A¨-S-¡-¯nsât]cnÂ hnhn[ {]hÀ¯-\-§-fnÂ\n¶pw \n§Ä Ip«n-Isf ]n³Xn-cn-¸n-¡m-dp-­v.

56. Ip«n-I-fpsS kÀKm-ß-I-amb Ign-hp-IÄ hf-cm-\m-h-iy-amb kzmX-{´yhpw Ah-k-chpw \n§Ä AhÀ¡p \ÂIm-dp-­v.

57. Hmtcm ]mT-`mKw Ign-bp-t¼mgpw \n§Ä Ip«n-I-tfmSv tNmZyw tNmZn¡p-I-tbm ]co£ \S-¯p-I-tbm sN¿m-dp-­v.

58. ¢m-ÊnÂ \¶mbn]-Tn-¡p-¶-h-tcmSv am{Xw tNmZyw tNmZn¡pI F¶ ioew \n§Ä¡p-­v.

59. ap³\_-©n-en-cn-¡p-¶-h-tcmSv tNmZyw tNmZn¡p-Ibpw ]nd-In-ep-Å-hsc Ah-K-Wn-¡p-Ibpw sN¿p¶ kz`mhw \n§Ä¡p-­v.

60. Ip«n-IÄ¡v s]s«¶v a\-Ên-em-Ip¶ coXn-bn-emWv \n§Ä tNmZyw tNmZn¡p-¶-Xv.

61. D¯cw ]d-ªn-sÃ-¦nepw Ip«n-Isf \n§Ä Ccn-¡m³ A\p-h-Zn-¡m-dp­v.

62. D¯cw ]d-bm-Xn-cn-¡p-I-tbm sXämbn ]d-bp-I-tbm sN¿p¶ Ip«n-IÄ¡v icn-bp-¯cw ]d-bm-\pÅ Ah-kcw \n§Ä \ÂIm-dp-­v.

63. Ip«n-IÄ t\cn-Sp¶ GXp {]iv\hpw tIÄ¡m\pw Ahbv¡v Bh-iy-amb \nÀt±-i-§Ä \ÂIm\pw \n§Ä {ian-¡m-dp-­v.

64. km¼-¯n-I-amb \_q²n-ap-«pÅ Ah-k-c-§-fnÂ \n§Ä Ip«n-IÄ¡v klm-bn-bmbn amdm-dp-­v.

65. Ip«n-IÄ hfsc hnj-an-¡p¶ Ah-k-c-§-fnÂ \n§-fpsS km¶n²yw AhÀs¡mcp km´z-\-ambn tXm¶mdp-­v.

66. Ip«nIÄ t\cn-Sp¶ GXp {]iv\-¯n\pw ]cn-lmcw Is­-¯m³ \nb-{´-W-an-Ãm¯   
k-lmbw \n§Ä \ÂIm-dp-­v.

67. \n§Ä Hcp amXrIm-[ym-]-I-\m-sW¶v \n§Ä¡v tXm¶p¶p-­v.

68. Ip«n-I-fpsS Ign-hp-IÄ a\-Ên-em¡n D¶-X-hn-Zym-`ym-k-¯n\mhiy-amb amÀK-\nÀt±-i-§Ä \n§Ä AhÀ¡v \ÂIm-dp-­v.

69. ¢mÊvka-b¯v \n§-fpsS A`mhw Ip«n-I-fnÂ hnjaw D­m¡pw F¶v \n§Ä¡v tXm¶p¶p-­v.

70. \n§Ä Ip«n-I-tfmSpw tPmentbmSpw BßmÀ°X ImWn-¡p-¶p-­v.

71. \n§Ä hm¡p-I-fnepw {]hÀ¯n-I-fnepw kXy-k-ÔX ]peÀ¯m-dp-­v.

72. \n§Ä Ip«n-I-tfmSpw aäp-Å-h-tcmSpw £a-tbmSpIqSn s]cp-am-dm-dp-­v.

73. \n§Ä \n§-fpsS Xocq-am-\-§-fnÂ ISpw-]n-Sp¯w ImWn-¡msX hn«p-ho-gvN¡v X¿m-dm-hm-dp-­v.

74. \n§Ä \n§-fpsS FÃm{]hÀ¯-\-§-fnepw A¨-S¡w ImWn-¡p-Ibpw Ip«n-Isf AXn-te¡p \bn-¡p-Ibpw sN¿m-dp-­v.

75. Ip«n-Isf {i²n-¡m\pw kwc-£n-¡m\pw DÅ a\:-ØnXn \n§Ä ImWn-¡m-dp-­v.

76. \n§Ä Ip«n-I-tfmSv ]£-]mXw ImWn-¡m-dp-s­¶v \n§Ä¡p tXm¶p¶p-­v.

77. \n§Ä sXäp-Ipäw ImWn-¡p-¶-h-tcmSpw t]mcmbva DÅ-h-tcmSpw Zbm-]qÀÆw s]cp-am-dm-dp-­v.

78. \n§Ä Ip«n-I-fpsS ]cn-an-XnIfpw Ign-hp-I-fpw a\-Ên-em¡n s]cp-am-dm-dp-­v.

79. \n§Ä D¯-c-hm-Zn-Xz-t¯mSpw Nn«-tbmSpwIqSn Ip«n-I-tfmSv s]cp-am-dm-dp-­v.

80. \n§Ä ^enXw Bkz-Zn-¡m\pw ]d-bm\pw Ign-hpÅ Bfm-Wv.

81. \n§Ä thj-¯nepw `mh-¯nepw kw`m-j-W-¯nepw s]cp-am-ä-¯nepw emfnXyw ImWn-¡m-dp-­v.

82. \n§Ä Ip«n-I-tfmSpw tPmentbmSpw hn«p-ho-gvN-bn-Ãm¯ {]Xn-\_-²X ImWn-¡m-dp-­v.

83. A[ym-]\w Imcy-£-a-am-¡m\pw ck-I-c-am-¡m\pw Bh-iy-amb Bi-b-k-ar²n \n§Ä¡p D­v.

84. \n§Ä kam-\-km-l-N-cy-§-fnÂ Xocp-am-\-§-fnepw, {]hÀ¯n-I-fnepw, kz`mh¯nepw ØncX ImWn-¡m-dp-­v.

85. Ip«n-I-fpsS D¶-a-\-¯nÂ (hn-P-b-¯nÂ) \n§Ä iq`-{]-Xo£ sh¨p ]peÀ¯m-dp-­v.

86. \n§Ä \n§-fpsS IqsS DÅ-hsc \bn-¡p-Ibpw aäp-Å-h-cmÂ AwKo-I-cn-¡-s¸-Sp-Ibpw sN¿m-dp-­v.

87. \n§Ä Ip«n-I-tfmSpw klm-[ym-]-I-tcmSpw Hs¯mcpan¨v {]hÀ¯n-¡m-dp-­v.

88. \n§Ä¡v {]Xn-\_-Ô-§sf ap³Iq-«n-Im-Wm\pw AXns\ X-cWwsN¿m-\p-apÅ a\x-Ê-¶-²X D­v.

89 \n§Ä¡v Bscbpw GXv ka-b¯pw X\n¡v Ign-bpw-hn[w klm-bn-¡m-\pÅ a\x-ØnXn D­v.

90 hyXykvX kz`m-h-hn-ti-j-§Ä, ImgvN-¸m-Sp-IÄ, s]cp-am-ä-§Ä, coXn-IÄ, `mjm-hy-Xymkw XpS-§n-bh DÄs¡mÅm\pÅ Ignhv \n§Ä¡v D­v.

91. \n§Ä¡v Ip«n-I-tfmSpw kl-{]-hÀ¯-I-tcmSpw kµÀt`mNnX-ambn tbm-Pn¨pt]mIm\pÅ Ignhv D­v.

92. \n§Ä kv¡qfnÂ IrXy-\njvT ]men-¡p-Ibpw ]mT-`mKw IrXy-k-a-b¯v XoÀ¡p-Ibpw sN¿m-dp-­v.

93. \n§Ä hnizm-ky-tbmKyamb Imcyw BcnÂ\n¶pw kzoI-cn-¡p-Ibpw Xsâ sXäp-Ip-ä-§Ä Xpd-¶p-k-½-Xn-¡p-Ibpw sN¿m-dp-­v.

94. kl-{]-hÀ¯-I-tcmSpw hnZymÀ°n-I-tfmSpw \n§Ä hnth-N\w ImWn-¡m-dp-­v.

95 \n§Ä imkv{X-ta-f-¡pw-aäpw {]ZÀin-¸n-¡m-\-h-iy-amb {]ZÀi-\-h-kvXp-¡Ä \nÀ½n¡m-dp-­v.

96. \n§Ä¡v Adn-bm¯ Imcy-§Ä \n§Ä BcpsS ap¶nepw Xpd-¶p-k-½-Xn-¡m-dp-­v.

97. A[ym-]-IÀ¡n-S-bnepw Ip«n-IÄ¡n-S-bnepw D­m-hp¶ {]iv\-§Ä ^e-{]-Z-ambn ]cn-l-cn-¡m³ \n§Ä¡v Ign-bm-dp-­v.

98. \n§Ä Npäp-]m-Sns\ a\-Ên-em¡n AXn-\-\p-k-cn¨v {]hÀ¯n-¡m-dp-­v.

**APPENDIX VI**

**RESPONSE SHEET**

**(TEACHER VERSION)**

**hyàn-]-c-amb hnh-c-§Ä: hnZym-e-b-]-c-amb hnh-c-§Ä:**

t]cv : ………………………. hnZyme-b-¯nsâ t]cv: ……………

hbÊv: ……………………… Øew : ]©m-b¯v/ap³kn-¸m-enän/

tImÀ¸td-j³

]pcp-j³/kv{Xo Kh¬saâv/FbvUUv/A¬-F-bvUUv

hnhmlnX(³) BWv/AÃ B¬Ip-«n-Ifpw s]¬Ip-«n-Ifpw/

B¬Iq-«n-IÄ/ s]¬Ip-«n-IÄ

Xma-k-Øew: IpSpw-\_-t¯msSm¸w/

tlmÌÂ

hnZym-`ym-k-tbmKyX: B.Sc./M.Sc./B.Ed./M.Ed. tPmenbnÂ {]th-in¨ hÀjw: ……

{]hr¯n ]cn-Nbw : 0-5 / 5-10 / 10-15 / 15-20 /

20-25 / 25-30 / 30-35

|  |  |  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| Sl. No. | **Xosc CÃ** | **Ipd¨v D­v** | **icm-icn** | **IqSp-X-ep­v** | **hfsc IqSp-XÂ** |  | Sl. No. | **Xosc CÃ** | **Ipd¨v D­v** | **icm-icn** | **IqSp-X-ep­v** | **hfsc IqSp-XÂ** |
| 1 | 🞎 | 🞎 | 🞎 | 🞎 | 🞎 |  | 2 | 🞎 | 🞎 | 🞎 | 🞎 | 🞎 |
| 3 | 🞎 | 🞎 | 🞎 | 🞎 | 🞎 |  | 4 | 🞎 | 🞎 | 🞎 | 🞎 | 🞎 |
| 5 | 🞎 | 🞎 | 🞎 | 🞎 | 🞎 |  | 6 | 🞎 | 🞎 | 🞎 | 🞎 | 🞎 |
| 7 | 🞎 | 🞎 | 🞎 | 🞎 | 🞎 |  | 8 | 🞎 | 🞎 | 🞎 | 🞎 | 🞎 |
| 9 | 🞎 | 🞎 | 🞎 | 🞎 | 🞎 |  | 10 | 🞎 | 🞎 | 🞎 | 🞎 | 🞎 |
| 11 | 🞎 | 🞎 | 🞎 | 🞎 | 🞎 |  | 12 | 🞎 | 🞎 | 🞎 | 🞎 | 🞎 |
| 13 | 🞎 | 🞎 | 🞎 | 🞎 | 🞎 |  | 14 | 🞎 | 🞎 | 🞎 | 🞎 | 🞎 |
| 15 | 🞎 | 🞎 | 🞎 | 🞎 | 🞎 |  | 16 | 🞎 | 🞎 | 🞎 | 🞎 | 🞎 |
| 17 | 🞎 | 🞎 | 🞎 | 🞎 | 🞎 |  | 18 | 🞎 | 🞎 | 🞎 | 🞎 | 🞎 |
| 19 | 🞎 | 🞎 | 🞎 | 🞎 | 🞎 |  | 20 | 🞎 | 🞎 | 🞎 | 🞎 | 🞎 |
| 21 | 🞎 | 🞎 | 🞎 | 🞎 | 🞎 |  | 22 | 🞎 | 🞎 | 🞎 | 🞎 | 🞎 |
| 23 | 🞎 | 🞎 | 🞎 | 🞎 | 🞎 |  | 24 | 🞎 | 🞎 | 🞎 | 🞎 | 🞎 |
| 25 | 🞎 | 🞎 | 🞎 | 🞎 | 🞎 |  | 26 | 🞎 | 🞎 | 🞎 | 🞎 | 🞎 |
| 27 | 🞎 | 🞎 | 🞎 | 🞎 | 🞎 |  | 28 | 🞎 | 🞎 | 🞎 | 🞎 | 🞎 |
| 29 | 🞎 | 🞎 | 🞎 | 🞎 | 🞎 |  | 30 | 🞎 | 🞎 | 🞎 | 🞎 | 🞎 |
| 31 | 🞎 | 🞎 | 🞎 | 🞎 | 🞎 |  | 32 | 🞎 | 🞎 | 🞎 | 🞎 | 🞎 |
| 33 | 🞎 | 🞎 | 🞎 | 🞎 | 🞎 |  | 34 | 🞎 | 🞎 | 🞎 | 🞎 | 🞎 |
| 35 | 🞎 | 🞎 | 🞎 | 🞎 | 🞎 |  | 36 | 🞎 | 🞎 | 🞎 | 🞎 | 🞎 |
| 37 | 🞎 | 🞎 | 🞎 | 🞎 | 🞎 |  | 38 | 🞎 | 🞎 | 🞎 | 🞎 | 🞎 |
| 39 | 🞎 | 🞎 | 🞎 | 🞎 | 🞎 |  | 40 | 🞎 | 🞎 | 🞎 | 🞎 | 🞎 |
| 41 | 🞎 | 🞎 | 🞎 | 🞎 | 🞎 |  | 42 | 🞎 | 🞎 | 🞎 | 🞎 | 🞎 |
| 43 | 🞎 | 🞎 | 🞎 | 🞎 | 🞎 |  | 44 | 🞎 | 🞎 | 🞎 | 🞎 | 🞎 |
| 45 | 🞎 | 🞎 | 🞎 | 🞎 | 🞎 |  | 46 | 🞎 | 🞎 | 🞎 | 🞎 | 🞎 |

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| Sl. No. | **Xosc CÃ** | **Ipd¨v D­v** | **icm-icn** | **IqSp-X-ep­v** | **hfsc IqSp-XÂ** |  | Sl. No. | **Xosc CÃ** | **Ipd¨v D­v** | **icm-icn** | **IqSp-X-ep­v** | **hfsc IqSp-XÂ** |
| 47 | 🞎 | 🞎 | 🞎 | 🞎 | 🞎 |  | 48 | 🞎 | 🞎 | 🞎 | 🞎 | 🞎 |
| 49 | 🞎 | 🞎 | 🞎 | 🞎 | 🞎 |  | 50 | 🞎 | 🞎 | 🞎 | 🞎 | 🞎 |
| 51 | 🞎 | 🞎 | 🞎 | 🞎 | 🞎 |  | 52 | 🞎 | 🞎 | 🞎 | 🞎 | 🞎 |
| 53 | 🞎 | 🞎 | 🞎 | 🞎 | 🞎 |  | 54 | 🞎 | 🞎 | 🞎 | 🞎 | 🞎 |
| 55 | 🞎 | 🞎 | 🞎 | 🞎 | 🞎 |  | 56 | 🞎 | 🞎 | 🞎 | 🞎 | 🞎 |
| 57 | 🞎 | 🞎 | 🞎 | 🞎 | 🞎 |  | 58 | 🞎 | 🞎 | 🞎 | 🞎 | 🞎 |
| 59 | 🞎 | 🞎 | 🞎 | 🞎 | 🞎 |  | 60 | 🞎 | 🞎 | 🞎 | 🞎 | 🞎 |
| 61 | 🞎 | 🞎 | 🞎 | 🞎 | 🞎 |  | 62 | 🞎 | 🞎 | 🞎 | 🞎 | 🞎 |
| 63 | 🞎 | 🞎 | 🞎 | 🞎 | 🞎 |  | 64 | 🞎 | 🞎 | 🞎 | 🞎 | 🞎 |
| 65 | 🞎 | 🞎 | 🞎 | 🞎 | 🞎 |  | 66 | 🞎 | 🞎 | 🞎 | 🞎 | 🞎 |
| 67 | 🞎 | 🞎 | 🞎 | 🞎 | 🞎 |  | 68 | 🞎 | 🞎 | 🞎 | 🞎 | 🞎 |
| 69 | 🞎 | 🞎 | 🞎 | 🞎 | 🞎 |  | 70 | 🞎 | 🞎 | 🞎 | 🞎 | 🞎 |
| 71 | 🞎 | 🞎 | 🞎 | 🞎 | 🞎 |  | 72 | 🞎 | 🞎 | 🞎 | 🞎 | 🞎 |
| 73 | 🞎 | 🞎 | 🞎 | 🞎 | 🞎 |  | 74 | 🞎 | 🞎 | 🞎 | 🞎 | 🞎 |
| 75 | 🞎 | 🞎 | 🞎 | 🞎 | 🞎 |  | 76 | 🞎 | 🞎 | 🞎 | 🞎 | 🞎 |
| 77 | 🞎 | 🞎 | 🞎 | 🞎 | 🞎 |  | 78 | 🞎 | 🞎 | 🞎 | 🞎 | 🞎 |
| 79 | 🞎 | 🞎 | 🞎 | 🞎 | 🞎 |  | 80 | 🞎 | 🞎 | 🞎 | 🞎 | 🞎 |
| 81 | 🞎 | 🞎 | 🞎 | 🞎 | 🞎 |  | 82 | 🞎 | 🞎 | 🞎 | 🞎 | 🞎 |
| 83 | 🞎 | 🞎 | 🞎 | 🞎 | 🞎 |  | 84 | 🞎 | 🞎 | 🞎 | 🞎 | 🞎 |
| 85 | 🞎 | 🞎 | 🞎 | 🞎 | 🞎 |  | 86 | 🞎 | 🞎 | 🞎 | 🞎 | 🞎 |
| 87 | 🞎 | 🞎 | 🞎 | 🞎 | 🞎 |  | 88 | 🞎 | 🞎 | 🞎 | 🞎 | 🞎 |
| 89 | 🞎 | 🞎 | 🞎 | 🞎 | 🞎 |  | 90 | 🞎 | 🞎 | 🞎 | 🞎 | 🞎 |
| 91 | 🞎 | 🞎 | 🞎 | 🞎 | 🞎 |  | 92 | 🞎 | 🞎 | 🞎 | 🞎 | 🞎 |
| 93 | 🞎 | 🞎 | 🞎 | 🞎 | 🞎 |  | 94 | 🞎 | 🞎 | 🞎 | 🞎 | 🞎 |
| 95 | 🞎 | 🞎 | 🞎 | 🞎 | 🞎 |  | 96 | 🞎 | 🞎 | 🞎 | 🞎 | 🞎 |
| 97 | 🞎 | 🞎 | 🞎 | 🞎 | 🞎 |  | 98 | 🞎 | 🞎 | 🞎 | 🞎 | 🞎 |

**APPENDIX III**

**FAROOK TRAINING COLLEGE**

**P.O.FAROOK COLLEGE**

**CALICUT**

**TEACHER-PUPILS RELATIONSHIP SCALE - 2005**

**(PUPIL VERSION - FINAL)**

**K.P. MOHAMMED ISHAQ RANJITHA.T.**

Selection Grade Lecturer M.Ed Student

Farook Training College Farook Training College

**INSTRUCTIONS**

The instruction given below indicates teacher pupil relationship for which there are 5 division to mark your response. They are not 'atall, 'least, 'average', 'high' 'very high'. Mark the response by using multiplication sign (X) in the column provided in the response sheet. You must not write any thing in the response sheet.

For example, if you think communication is a factor for teacher pupil relationship, mark in the column "not at all" if not at all present, or if you feel it is present mark 'least', if it is present in an average manner mark 'average', if it is present in a good manner mark 'High', if it is highly present mark 'very high.

eg:- Teacher give more importance to students cooperate works

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| Not at all | Least | Average | High | Very high |
|  |  | X |  |  |

The above example indicate that the teacher gives average importance to student's co-operative work.

NB:- Give only one response to a statement.

The information given by you will be kept confidential and will be used only for the purpose of research.

1. Teacher engages in friendly conversation with the students immediately after entering into the class.

2. Teacher discuss various maters with the students beyond their academic matters.

3. Teacher discuss different matters related to your subject even outside the classroom.

4. Teacher gives enough chance to students to find out things, to reach conclusions and to ask questions.

5. Teacher ask questions continuously to students and make confusion in the students.

6. Teacher provide opportunities to the students to communicate and to clarify their doubts.

7. Teacher keep contact with parents and discuss with them the students family background.

8. Teacher indulge in the students individual problems regarding education.

9. Teacher make expectation in the pupils abilities and you grow as per teacher's expectation.

10. Teacher gives sufficient group assignments, hints and guidelines for the students.

11. Teacher make learning activities according to students learning speed and method of learning.

12. Teacher provide special facilities for different learning activities in the class.

13. Teacher try to arrange the learning equipments in the class in such a way as to bring the attention of the whole class alike.

14. Teacher try to change the seating arrangements in such a way to keep his attention to the whole class.

15. Teacher can manage the class appropriately when it becomes noisy.

16. Teacher is able to keep the attention of the whole students in the class in the time of the learning process.

17. In the presence of teacher students make noise in the class.

18. Teacher particularly try to find out the inattentive students and make them attentive.

19. Teacher provides befitted learning situation to each and every learning activity and lesson.

20. Teacher takes the classes in the students' level or standard.

21. Teacher adopts new methods of teaching.

22. Teacher provides enough opportunities and activities for the intellectual development of students.

23. Teacher provides enough directions to deal with the learning aids and opportunities to use the library.

24. Teacher provides ample opportunities for review and feedback.

25. Teacher provides varieties of sufficient learning activities to bring forward the weak students.

26. Students feel teacher's class very boring.

27. The methodology used by the teacher give ample inspiration to the student.

28. Teacher gives appropriate guidelines and inspirations to the students in their extra curricular activities like arts and sports.

29. Teacher consider each student in the class as an important person.

30. Teacher procise those students who give correct answer and those who attain high marks.

31. Teacher accept any of the ideas of students.

32. Teacher find out and encourage the students who are talented in extra-curricular activities.

33. Teacher accept the ideas discovered by the students related to the lessons.

34. Teacher seeks opinion of students ,related to the learning process.

35. Before taking a decision teacher discuss the matter with the students.

36. Teacher makes the low achievers aware of the reasons behind it and encourage even for silly matters.

37. Teacher scolds the students even for silly matters.

38. Teacher gives severe punishments to the students if they fail to discharge their duties.

39. Students feel that teacher neglects them at various ways.

40. Teacher expresses discrimination to the low achievers.

41. Teacher tease the students in their inabilities.

42. Teacher punish the low achievers severely.

43. Teacher gives direct and comprehensive learning activities to the students.

44. Teacher provide enough facilities and convenience to the students for self learning and group learning.

45. Teacher allow the students to express their desires and doubts and to select their own paths in the activities.

46. Teacher try to co-operate and work with the students when they need it.

47. Teacher can present activities that are helpful to increase mutual co-operation among the students.

48. Teacher have got character which the students cannot agree.

49. Teacher supervise the students activities and try to help them all equally.

50. Teacher take part in social works and give enough advice to the students to involve in it.

51. Teacher bring the eminent personalities of the society to the class in relation with the learning activities.

52. Teacher keep good relation with other teachers.

53. Teacher planned and implemented P.T.A activities for the development of pupils.

54. Teacher allow the students to study freely inside and out side the classroom.

55. Teacher divert the students from different activities by strictly insisting upon discipline.

56. Teacher give enough opportunities and freedom to students inorder to nourish their creative abilities.

57. Teacher ask questions and conduct test paper after the completion of each lesson.

58. Teacher has a habit of posing questions only to the high achievers.

59. Teacher has a habits of considering the front benchers and neglecting the back benchers while asking questions.

60. Teacher asks questions to students in an easily comprehensive way.

61. Teacher allowed the pupils to sit even when they don't given answers.

62. Teacher give chance to the student who can't give answers or who give wrong answers for giving right answers.

63. Teacher give change to the student who can't give answers or who give wrong answers for giving right answers.

64. Teacher help the students when they face financial problems.

65. The students feels that the presence of teacher will be a consolation for them when they are in any crux.

66. Teacher help the students freely to find solution to their problems.

67. Teacher feel that he or she is a model teacher.

68. Teacher realises the abilities of the students and give them proper guidance for higher education.

69. Students feels worry in the absence of teacher during the class time.

70. Teacher keep sincerity to both students and profession.

71. Teacher is honest both in their words and their work.

72. Teacher behave patiently to their students and others.

73. Teacher's ready to make compromise by not being rigid in their decisions.

74. Teacher keep discipline in all their activities and lead the students to be like that.

75. Teacher express the mentality to care and protect the students.

76. Teacher shows partiality to the students.

77. Teacher kindly deal the students who have some drawbacks and limitations.

78. Teacher deal with the students by understanding their abilities, and limitations.

79. Teacher behave with the students in a responsible and systematic way.

80. Teacher have a sense of humour and able to create and enjoy jokes.

81. Teacher keep simplicity in his total appearance.

82. Teacher express deep commitment both to the students and to the profession.

83. Teacher have enough ideas to make the teaching competent and interesting.

84. Teacher show consistency in their decisions activities and character in the similar situations.

85 Teacher shows optimism in the student's progress

86 Teacher have an ability to lead the colleagues and the teacher recognised by others.

87. Teacher work together with his/her colleagues and students.

88. Teacher have the willingness to foresee the obstacles and over come them.

89. Teacher are willing to help any one at any time as he/she can.

90. Teacher have the ability to understand the different characteristics, views, behaviours manners and language differences.

91. Teacher can adjust with students and colleagues appropriately.

92. Teacher keep punctuality and complete the lessons in appropriate time.

93. Teacher receive believable things from any once and ready to confess their mistakes.

94. Teacher show discrimination to the colleagues and to the students.

95. Teacher make different materials for science exhibition.

96. Teacher is ready to express their state of ignorance before any one.

97. Teacher have the ability to solve the problems among teachers and students fruitfully.

98. Teacher can act according to the circumstances.

**APPENDIX IV**

**RESPONSE SHEET**

**(Pupil Version)**

**Personal Details Details of School**

Name :.................. Name of School : ..........

......................................

Age : ................. Place: Panchayath/ Muncipality/Corparation

Boy/Girl Type of School :

Government/

Aided/Unaided

Mixed School/

Boys only/Girls only

| Sl. No. | Not at all | Least | Ave-rage | High | Very High |  | Sl. No. | Not at all | Least | Ave-rage | High | Very High |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| 1 | 🞎 | 🞎 | 🞎 | 🞎 | 🞎 |  | 2 | 🞎 | 🞎 | 🞎 | 🞎 | 🞎 |
| 3 | 🞎 | 🞎 | 🞎 | 🞎 | 🞎 |  | 4 | 🞎 | 🞎 | 🞎 | 🞎 | 🞎 |
| 5 | 🞎 | 🞎 | 🞎 | 🞎 | 🞎 |  | 6 | 🞎 | 🞎 | 🞎 | 🞎 | 🞎 |
| 7 | 🞎 | 🞎 | 🞎 | 🞎 | 🞎 |  | 8 | 🞎 | 🞎 | 🞎 | 🞎 | 🞎 |
| 9 | 🞎 | 🞎 | 🞎 | 🞎 | 🞎 |  | 10 | 🞎 | 🞎 | 🞎 | 🞎 | 🞎 |
| 11 | 🞎 | 🞎 | 🞎 | 🞎 | 🞎 |  | 12 | 🞎 | 🞎 | 🞎 | 🞎 | 🞎 |
| 13 | 🞎 | 🞎 | 🞎 | 🞎 | 🞎 |  | 14 | 🞎 | 🞎 | 🞎 | 🞎 | 🞎 |
| 15 | 🞎 | 🞎 | 🞎 | 🞎 | 🞎 |  | 16 | 🞎 | 🞎 | 🞎 | 🞎 | 🞎 |
| 17 | 🞎 | 🞎 | 🞎 | 🞎 | 🞎 |  | 18 | 🞎 | 🞎 | 🞎 | 🞎 | 🞎 |
| 19 | 🞎 | 🞎 | 🞎 | 🞎 | 🞎 |  | 20 | 🞎 | 🞎 | 🞎 | 🞎 | 🞎 |
| 21 | 🞎 | 🞎 | 🞎 | 🞎 | 🞎 |  | 22 | 🞎 | 🞎 | 🞎 | 🞎 | 🞎 |
| 23 | 🞎 | 🞎 | 🞎 | 🞎 | 🞎 |  | 24 | 🞎 | 🞎 | 🞎 | 🞎 | 🞎 |
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| 35 | 🞎 | 🞎 | 🞎 | 🞎 | 🞎 |  | 36 | 🞎 | 🞎 | 🞎 | 🞎 | 🞎 |
| 37 | 🞎 | 🞎 | 🞎 | 🞎 | 🞎 |  | 38 | 🞎 | 🞎 | 🞎 | 🞎 | 🞎 |
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| 41 | 🞎 | 🞎 | 🞎 | 🞎 | 🞎 |  | 42 | 🞎 | 🞎 | 🞎 | 🞎 | 🞎 |
| 43 | 🞎 | 🞎 | 🞎 | 🞎 | 🞎 |  | 44 | 🞎 | 🞎 | 🞎 | 🞎 | 🞎 |
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| 61 | 🞎 | 🞎 | 🞎 | 🞎 | 🞎 |  | 62 | 🞎 | 🞎 | 🞎 | 🞎 | 🞎 |
| 63 | 🞎 | 🞎 | 🞎 | 🞎 | 🞎 |  | 64 | 🞎 | 🞎 | 🞎 | 🞎 | 🞎 |
| 65 | 🞎 | 🞎 | 🞎 | 🞎 | 🞎 |  | 66 | 🞎 | 🞎 | 🞎 | 🞎 | 🞎 |
| 67 | 🞎 | 🞎 | 🞎 | 🞎 | 🞎 |  | 68 | 🞎 | 🞎 | 🞎 | 🞎 | 🞎 |
| 69 | 🞎 | 🞎 | 🞎 | 🞎 | 🞎 |  | 70 | 🞎 | 🞎 | 🞎 | 🞎 | 🞎 |
| 71 | 🞎 | 🞎 | 🞎 | 🞎 | 🞎 |  | 72 | 🞎 | 🞎 | 🞎 | 🞎 | 🞎 |
| 73 | 🞎 | 🞎 | 🞎 | 🞎 | 🞎 |  | 74 | 🞎 | 🞎 | 🞎 | 🞎 | 🞎 |
| 75 | 🞎 | 🞎 | 🞎 | 🞎 | 🞎 |  | 76 | 🞎 | 🞎 | 🞎 | 🞎 | 🞎 |
| 77 | 🞎 | 🞎 | 🞎 | 🞎 | 🞎 |  | 78 | 🞎 | 🞎 | 🞎 | 🞎 | 🞎 |
| 79 | 🞎 | 🞎 | 🞎 | 🞎 | 🞎 |  | 80 | 🞎 | 🞎 | 🞎 | 🞎 | 🞎 |
| 81 | 🞎 | 🞎 | 🞎 | 🞎 | 🞎 |  | 82 | 🞎 | 🞎 | 🞎 | 🞎 | 🞎 |
| 83 | 🞎 | 🞎 | 🞎 | 🞎 | 🞎 |  | 84 | 🞎 | 🞎 | 🞎 | 🞎 | 🞎 |
| 85 | 🞎 | 🞎 | 🞎 | 🞎 | 🞎 |  | 86 | 🞎 | 🞎 | 🞎 | 🞎 | 🞎 |
| 87 | 🞎 | 🞎 | 🞎 | 🞎 | 🞎 |  | 88 | 🞎 | 🞎 | 🞎 | 🞎 | 🞎 |
| 89 | 🞎 | 🞎 | 🞎 | 🞎 | 🞎 |  | 90 | 🞎 | 🞎 | 🞎 | 🞎 | 🞎 |
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| 93 | 🞎 | 🞎 | 🞎 | 🞎 | 🞎 |  | 94 | 🞎 | 🞎 | 🞎 | 🞎 | 🞎 |
| 95 | 🞎 | 🞎 | 🞎 | 🞎 | 🞎 |  | 96 | 🞎 | 🞎 | 🞎 | 🞎 | 🞎 |
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**APPENDIX VII**

**FAROOK TRAINING COLLEGE**

**P.O.FAROOK COLLEGE**

**CALICUT**

**TEACHER-PUPILS RELATIONSHIP SCALE - 2005**

**(TEACHER VERSION - FINAL)**

**K.P. MOHAMMED ISHAQ RANJITHA.T.**

Selection Grade Lecturer M.Ed Student

Farook Training College Farook Training College

**INSTRUCTIONS**

The instruction given below indicates teacher pupil relationship for which there are 5 division to mark your response. They are not 'atall, 'least, 'average', 'high' 'very high'. Mark the response by using multiplication sign (X) in the column provided in the response sheet. You must not write any thing in the response sheet.

For example, if you think communication is a factor for teacher pupil relationship, mark in the column "not at all" if not at all present, or if you feel it is present mark 'least', if it is present in an average manner mark 'average', if it is present in a good manner mark 'High', if it is highly present mark 'very high.

eg:- You gives more importance to students cooperate works

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| Not at all | Least | Average | High | Very high |
|  |  | X |  |  |

The above example indicate that the you gives average importance to student's co-operative work.

NB:- Give only one response to a statement.

The information given by you will be kept confidential and will be used only for the purpose of research.

1. You engage in friendly conversation with the students as you enter the class.

2. You discuss various matters with your students other than academic matters.

3. You discuss matters related to your subjects even outside the classroom.

4. You give enough chance to students to find out things, to reach conclusions and to ask questions.

5. You ask questions continuously to students and make confusions in them.

6. You provide opportunities to the students to communicate and to clarify their doubts.

7. You keep contact with students parents and discuss with them their family background.

8. You indulge in the students individual problems regarding education.

9. You make expectations in the pupils' abilities and they grow as per your expectations.

10. You give sufficient group assignment, cues and helps to students.

11. You make learning activities according to the student's speed of learning and method of learning.

12. You provide special facilities for different learning activities in the class.

13. You try to arrange the learning equipments in the class in such a way as to bring the attention of the whole class alike.

14. You try to change the seating arrangements in such a way to keep your attention to the whole class.

15. You can control the class appropriately when it becomes noisy.

16. You can keep the attention of the whole students in the class in the time of learning process.

17. Students make noise in the class even in your presence.

18. You try to find out the inattentive students and make them attentive.

19. You arrange appropriate learning situation for each learning activities and the lesson.

20. You take the classes in the students level.

21. You receive new learning methods.

22. You provide enough opportunities and activities for the intellectual development of students.

23. You provide enough directions to deal with the learning aids and the opportunities to use the library.

24. You provide ample opportunities for review and feed back.

25. Pupils feel your class dull.

26. You give a variety of sufficient learning activities to bring forward the weak students.

27. Your teaching methodologies give ample inspiration to the students.

28. You give appropriate guidelines and encouragements to the students in their extracurricular activities like arts and sports.

29. You consider each student in the class as an important person.

30. You procise those students who give correct answers and those who attain high mark.

31. You accept any of the ideas of students.

32. You find out and encourage the students who are talented in extra curricular activities.

33. You accept the things/ideas discovered by the students related to the lesson, when they show them to you.

34. In all the learning process you seek the students opinion related to that.

35. Before taking a decision you discuss the matter with the students.

36. You make the low achievers aware of the reasons behind it and encourage them to attain more marks.

37. You scold the pupils even for silly matters.

38. You give severe punishments to the students if they fail to discharge their duties.

39. You neglect the students at various way.

40. You express discrimination to the low achievers.

41. You tease the students in their inabilities.

42. You punish the low achievers severely.

43. You give direct and comprehensive learning activities to the students.

44. You provide facilities of convenience to the students for self learning and group learning.

45. You allow the students to express their desires and doubts and to select their own paths in the activities.

46. You try to co-operate and work with the students when they need it.

47. You can present activities that are helpful to increase mutual cooperation among the students.

48. You feel that you have got the character which the students cannot agree.

49. You supervise the students activities and try to help them all equally.

50. You take part in social works and give enough advice to the students to involve in it.

51. You bring the eminent personalities of the society to the class in relation with the learning activities.

52. You keep good relation with other teachers.

53. You planned the PTA activities and implemented for the development of pupils.

54. You allow the students study freely inside and outside the classroom,.

55. You direct the students from different activities by strictly insisting upon discipline.

56. You give enough opportunities and freedom to students inorder to nourish their creative abilities.

57. After the completion of each lesson you ask questions or conduct test papers.

58. You have a habit of posing question only to the high achievers.

59 You have a habit of considering the front benchers and neglecting the back benchers while asking questions.

60. You ask questions to students in an easily comprehensible way.

61. You make the pupils sit even when they don't give answers.

62. You give chance to the pupils who can't give answers or who give wrong answers, for giving right answers.

63. You try to hear any kind of students problems and to give necessary suggestions to solve them.

64. You help the students when they face financial problems.

65. Your presence will be a consolation for the students when they are in any crux.

66. You help the students freely to find solution to their problems.

67. You fact that you are a model teacher.

68. Realizing the abilities of the students you give them proper guidance for higher education.

69. You feel that your absence during the class time will be a problem to the students.

70. You keep sincerity both to your students and to your profession.

71. You are honest or truthful to your words and profession.

72. You behave patiently to your students and others.

73. You are ready to make compromise/adjust by not being rigid in your decisions.

74. You keep discipline in all your activities and lead the students to be like that.

75. You express the mentality to care and protect your students.

76. You feel that you show partiality to students.

77. You deal kindly with those who have some draw backs and limitations.

78. You deal with the students with a knowledge of their strengths and limitation.

79. You deal with the students in a responsible and systematic way.

80. You have a sense of humour and you are able to create and enjoy jokes.

81. You keep simplicity in your total appearance.

82. You express deep committment both to your students and to your profession.

83. You have enough ideas to make your teaching competent and interesting.

84. You show consistency in your decisions, activities and character in the similar situations.

85. You have optimism in the students progress.

86. You lead your colleagues and your are recognized by others.

87. You work together with your colleagues and students.

88. You have the willingness to foresee the obstacles and overcome them.

89. You are willing to help any one at any time as you can.

90. You have the ability to understand the different characteristics, views, behaviours, manners and language differences.

91. You can adjust with your students and colleagues appropriately.

92. You can keep punctuality and complete your portions in time.

93. You receive believable things from any one and ready to confess your mistakes.

94. You show discrimination to your colleagues and to your students.

95. You make the materials for science exhibition.

96. You are ready to express your state of ignorance before any one.

97. You can solve the problems among teachers and students truthfully.

98. You can act according to the circumstances.

**APPENDIX VIII**

**RESPONSE SHEET**

**(Teacher Version)**

**Personal Details Details of School**

Name :.................. Name of School : ..........

......................................

Age : ................. Place: Panchayath/ Muncipality/Corparation

Male/Female Type of School :

Married/Not Government/

Residence: With family/Hostel Aided/Unaided

Educational Qualification: B.Sc./M.Sc./ Mixed School/

B.Ed./M.Ed. Boys only/Girls only

Date of Appointment: ...........……

Teaching Experience: 0-5 / 5-10 / 10-15 / 15-20 /

20-25 / 25-30 / 30-35

| Sl. No. | Not at all | Least | Ave-rage | High | Very High |  | Sl. No. | Not at all | Least | Ave-rage | High | Very High |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| 1 | 🞎 | 🞎 | 🞎 | 🞎 | 🞎 |  | 2 | 🞎 | 🞎 | 🞎 | 🞎 | 🞎 |
| 3 | 🞎 | 🞎 | 🞎 | 🞎 | 🞎 |  | 4 | 🞎 | 🞎 | 🞎 | 🞎 | 🞎 |
| 5 | 🞎 | 🞎 | 🞎 | 🞎 | 🞎 |  | 6 | 🞎 | 🞎 | 🞎 | 🞎 | 🞎 |
| 7 | 🞎 | 🞎 | 🞎 | 🞎 | 🞎 |  | 8 | 🞎 | 🞎 | 🞎 | 🞎 | 🞎 |
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| 11 | 🞎 | 🞎 | 🞎 | 🞎 | 🞎 |  | 12 | 🞎 | 🞎 | 🞎 | 🞎 | 🞎 |
| 13 | 🞎 | 🞎 | 🞎 | 🞎 | 🞎 |  | 14 | 🞎 | 🞎 | 🞎 | 🞎 | 🞎 |
| 15 | 🞎 | 🞎 | 🞎 | 🞎 | 🞎 |  | 16 | 🞎 | 🞎 | 🞎 | 🞎 | 🞎 |
| 17 | 🞎 | 🞎 | 🞎 | 🞎 | 🞎 |  | 18 | 🞎 | 🞎 | 🞎 | 🞎 | 🞎 |
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| 71 | 🞎 | 🞎 | 🞎 | 🞎 | 🞎 |  | 72 | 🞎 | 🞎 | 🞎 | 🞎 | 🞎 |
| 73 | 🞎 | 🞎 | 🞎 | 🞎 | 🞎 |  | 74 | 🞎 | 🞎 | 🞎 | 🞎 | 🞎 |
| 75 | 🞎 | 🞎 | 🞎 | 🞎 | 🞎 |  | 76 | 🞎 | 🞎 | 🞎 | 🞎 | 🞎 |
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| 79 | 🞎 | 🞎 | 🞎 | 🞎 | 🞎 |  | 80 | 🞎 | 🞎 | 🞎 | 🞎 | 🞎 |
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| 93 | 🞎 | 🞎 | 🞎 | 🞎 | 🞎 |  | 94 | 🞎 | 🞎 | 🞎 | 🞎 | 🞎 |
| 95 | 🞎 | 🞎 | 🞎 | 🞎 | 🞎 |  | 96 | 🞎 | 🞎 | 🞎 | 🞎 | 🞎 |
| 97 | 🞎 | 🞎 | 🞎 | 🞎 | 🞎 |  | 98 | 🞎 | 🞎 | 🞎 | 🞎 | 🞎 |