
UNIT 2 TIME TABLING AND SCHOOL CALENDAR

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2.1 INTRODUCTION

Timetabling is the method by which the curriculum is brought to the pupils in the school. The school timetable is a methodical and a pre-arranged scheme of studies and activities. It is a plan, showing the daily allotment of time among the various subjects, activities and classes. It shows the hours of schoolwork, the time allowed to different items of this work, the teaching load of each teacher, the length of each period and the time of interval. A timetable, in fact, is the second school clock, in the face of which are shown the intervals, the hours of the day between which lessons are given, the kind of activity in progress in each class, like recreation interval as well as the time for assembly and dismissal. It also shows art, craft, community, social service and sports activities which, though recurring regularly, do not rank as ordinary scholastic lessons in the classroom. The head of a school has a number of resources at his/her command – teachers, teaching areas, finance and time. A timetable is the means by which these resources are marshalled to provide the greatest possible educational opportunities and alternatives for pupils in the most cost-effective manner.

In the developing world the emphasis on cost-effectiveness cannot be overstated. The more efficiently resources are utilized the better the education for the greater number of children. Decisions expressed by the timetable affect the entire school population and reflect the educational programme and philosophy of the school.

2.2 OBJECTIVES

After reading this unit you will be able to:

- discuss the need and importance of Timetable;
- list the various types of Timetable;
- explain the principles of Timetable construction;
- appreciate the constraints of Timetable;
- discuss timetabling at Primary, Secondary and Senior Secondary stages;
- trace the steps involved in timetable preparation at the three stages;
- appreciate the role of Head Teachers in Timetable design; and
- learn to manage timetabling as Head of the School in an effective manner.

2.3 NEED AND IMPORTANCE OF THE TIMETABLE

The timetable is a necessary tool for the efficient working of a school. It is really a mirror that reflects the entire educational programme of the school. "It is the timetable that supplies the framework within which the work of the school proceeds. It is the instrument through which the purpose of the school is to function." The values of the school timetable may be enumerated as follows:

- **It ensures smooth and orderly working of the school:** The major achievement of timetable is that everything is planned in advance. All the teachers and students know their jobs as well as the time they are to devote to each activity. It is due to the timetable that smooth, orderly and regular work in the school goes on even in the absence of the Head Teacher or any one of the teachers. If there is no timetable in the school, there is always the danger of negligence of duty, duplication of effort and repetition of unnecessary items and activities. The timetable places proper persons at their proper places, at the proper time and in the proper manner.
- **It prevents wastage of time and energy:** The timetable shows exactly what is to be done at a particular time. It, thus, directs the attention of both the pupil and the teacher to one thing at a time. Thus one's energy is automatically directed in a particular direction and this prevents a lot of wastage of time and energy. It also prevents confusion, duplication, overlapping and unnecessary repetition on the part of the pupil and the teacher.
- **It ensures equitable distribution of work among teachers:** With the help of the timetable, the Head Teacher can keep track of the quantum of work load assigned to each teacher working under him/her. The timetable gives a summary of the work allotted to each teacher. The Head Teacher, or another superior officer, can know at a glance the amount of work that every teacher is expected to do. Thus, the timetable helps in avoiding the allotment of too much or too little work to one teacher. This prevents heart burning among the teachers and so unnecessary tension to the Head Teacher on this account. After all, the Head Teacher has to have a congenial atmosphere in the school for optimal efficiency as well as efficacy.
- **It ensures equitable distribution of time to different subjects and activities:** The timetable gives due place, extension and emphasis to various subjects and activities in the school, according to their relative importance or difficulty. This is

very essential for the all round development of the pupils. This ensures that while the more important subjects and activities get more attention and time, the less important ones are not neglected.

- **It helps in adjusting schoolwork according to the needs of pupils:** The timetable helps the school authorities to adjust schoolwork according to the physiological needs of pupils. Fatigue, interest and freshness of mind and body are given due consideration at the time of constructing a timetable. As the Head, you should see to it that ample time is provided in the timetable for the teachers to check the pupils' notebooks and also to prepare for their lessons. As far as the pupils are concerned, the Head must ensure that co-curricular activities like sports, music, art and craft, library and other such activities get adequate time. This is very important for the all round development of the pupils.
- **It helps in the formulation of good habits:** A good timetable is very helpful in inculcating the habits of orderliness, punctuality and steadiness of purpose, both in the teachers and the students. It ensures regularity and even progress by preventing laxity. It develops a methodical attitude towards work among pupils and teachers in the school. Such adherence to a pre-arranged plan of work is the secret of success of all persons connected with the school.
- **It helps in school discipline:** The school timetable directly aids discipline in the school to a great extent. It prevents confusion and duplication of work and lessens the need of punishment by keeping pupils busy in desirable activities. Everything appears to be in perfect harmony, smoothness and concord. In the absence of such a plan, the school is sure to go topsy-turvy and create administrative problems for the Head.

Thus a good timetable not only facilitates work, but also adds efficacy in various spheres. A timetable is, therefore, an absolute necessity for every type of school and its vital importance cannot be denied. Of course, there should be flexibility in the timetable; rigidity may cause problems. The time-table has to be relaxed at times as per needs and circumstances, e.g., absenteeism of teacher/s.

While preparing a timetable certain aspects should be kept in mind to make a well balanced one. It should not be rigid and allow certain flexibility in it as well as in the mind of the teachers and Head. This is important if we want to achieve the aims and objectives, the vision that we have in mind for the school. The time-table should be prepared in such a manner that it can be moulded according to our needs and requirements without upsetting the other programmes. Teacher absenteeism is a common and recurring problem faced by all School Heads. This aspect should be kept in mind as substitute teachers are needed to work in place of absent teachers.

2.4 TYPES OF TIMETABLE

A good timetable clearly indicates what types of curricular and co-curricular activities are being carried on in the school at particular places and hours. It also shows under whose supervision and guidance those activities are being carried out. All this information may be contained in one timetable. But the more the number and variety of activities, the more the types of timetables. Only one timetable, with all types of information, does not serve the purpose. It is, therefore, desirable for the efficient working of the school programme to have the following types of timetable:

- **Consolidated timetable for the whole school:** This is also known as the general timetable. This timetable is a complete picture of the entire school programme per day. It is not only a sum total of all the class timetables in a concise form, but is also a record of every teacher's daily work. It shows the details of work of every individual teacher, with regard to his curricular and co-curricular activities in the school as also the vacant periods allotted to him. This

timetable is generally meant for the headmaster. Its copies should be available to all the teachers and also be put up in the staff room and students' notice board.

- **Class timetable:** It is a timetable of each class and of sections thereof. It shows the distribution of subjects in each class along-with teachers for each period. It also indicates the breaks in between the teaching periods along with recess, and the periods for games and other co-curricular activities. All the sections and classes in a school follow their respective class timetable and have a copy of it in their classroom; the class teacher, all the concerned teachers as well as every student should have a copy.
- **Teacher's timetable:** Every teacher has got a copy of his own programme, showing the details of his academic and non-academic work. A consolidated timetable, containing the programme of all the teachers in the school, is also prepared for the guidance and supervision of the Headmaster. A copy of this timetable is placed in the staff room and another copy in the Head's office.
- **Vacant periods timetable.** A special timetable showing the vacant periods of all the teachers is also prepared. This is helpful in allotting work when some teacher is absent. So if on a particular day, one or more teachers are absent, the Headmaster must keep their classes busy in one way or the other. And the best way of doing this job is to consult the vacant periods timetable and send those teachers to their classes who are free in those periods. A copy of this timetable is always available in the Headmaster's office.
- **Games timetable:** This timetable shows which particular group is engaged in a particular game at a particular time. Groups for games are not organized on the basis of sections or classes. These are organized on the basis of age and proficiency in games. So the need for a games timetable is obvious. In this timetable is also shown the number of the playground which is being used by a particular group in the case of a particular game. This will indicate which classes are in the playground at a given time so that it can be checked that too many classes are not there at the same time. This is very essential for the School Head to note as the playground is the place where accidents may occur. Any stray ball or push from another student can cause serious injury. Besides, if too many classes are there at a time, it can cause indiscipline if they are not properly supervised.
- **Co-curricular activities timetable:** In addition to games, a variety of co-curricular activities are also organized in every good school. Their importance in the field of education cannot be minimized. A regular timetable of all such activities is prepared in the beginning of each session showing the different types of activities in the school, the names of the teachers in charge of those activities, the place where they are to be held and the time when they are to be undertaken. It saves a lot of duplication as well as overlapping and facilitates the formation of groups of pupils participating in the activities of their own choice and liking.
- **Homework timetable:** In every school, some home-work is daily assigned to pupils in various subjects. But in order to see that this home-work does not become a mental strain on the average pupil, a home-work timetable is prepared beforehand by each section and class. It shows the amount of home task, to be set by each teacher for the class or classes in his or her own subject, during a week. In this way home-work is adjusted among the various teachers teaching the class and then no teacher can unnecessarily overburden the pupils with work in his own subject without caring for the homework by other teachers. A copy of this timetable is put up in each class or section and the monitor is to see that the teachers concerned have assigned the homework for the day. It is also advisable to send a copy of the home-work timetable to parents to secure their cooperation in this direction. In some schools a home tasks 'exercise book' is introduced in middle and higher classes and every pupil is required to keep a copy thereof. In

this exercise book, the home task assigned to the pupil in various subjects is entered by the teachers concerned each day for the information of the pupil's parent's or guardian's and the pupil is required to get his parent or guardian's signatures with date, after he has done the home task assigned to him on that particular day. Such a practice inculcates in pupils the good habit of revision and independent work, even after school hours.

2.4.1 School Calendar

The School Calendar is a timetable of another kind. The calendar is not for the periods in a day as an ordinary timetable is. The calendar gives the schedule for the academic session day-wise and month-wise. It spells out the working days and holidays. It tells when there will be a vacation like at Christmas or during the summer. If the school follows the semester system, then the calendar will show when a semester begins and when it ends. The calendar will indicate when the class periodical tests and the term-end or semester-end tests/examinations will be held. The calendar will also speak about the co-curricular activities schedule – when the various school functions like the annual function, exhibitions, competitions, sports days and other celebrations like festivals and important days (National Day, UN Day, Human Rights Day, Literacy Day, Mother's Day, etc.) will be celebrated.

Preparing and organizing a school calendar is one of the most important tasks of a school Head. It is a well planned school calendar that brings in the School Head's vision, knowledge, experience and capability to make the entire school pulsating with life. The purpose of administering or management in general, as well as in school, is to get things done efficiently as well as effectively. This helps in the process of keeping things going. But we all know that things can go on only if things are done in a properly planned manner. This also implies effectively built-in mechanisms for monitoring and evaluating the plan. According to J.P.Naik, educational planning implies taking decisions for future action with a view to achieving pre-determined objectives through the optimum use of scarce resources. It is obvious that the planning is put down in black and white on the school calendar. Therefore, its need and importance can never be overstated.

Check Your Progress 1

Note: Write your answers in the space given below.

1. Mention four points that show the need and importance of timetable.

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2. Mention and describe different types of timetable.

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3. Write a note on School Calendar.

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2.5 PRINCIPLES OF TIMETABLE CONSTRUCTION

Preparing a good timetable is really a complicated piece of work because a number of factors and conditions that change from school to school determine it. Its construction, therefore, requires thorough concentration and perseverance of mind. While constructing a good timetable, the following important principles should always be kept in view:

- **Type of school:** Its type determines the nature of curricular and co-curricular activities to be organized in a school. Activities organized in a junior basic school will differ from those in a secondary or higher secondary school. Similarly rural schools will differ to a great extent from urban schools. Single teacher and double – shift schools have their own specific problems which must be solved through the timetable. It is, therefore, important that while constructing a timetable, the specific needs of the school for which it is meant is always kept in mind.
- **Departmental regulations:** Generally, the State Department of Education prescribes the length of the school year, the duration of the school day, the duration of each of teaching periods and even the number of periods for each subject. It, therefore, becomes essential that the school timetable be in agreement with the government policy.
- **Amount of time available:** As we have stated above, the allotment of time to different subjects and activities is done on the basis of the amount of time available. In some states, the duration of time to be allotted to each subject has been fixed by the Department of Education, both for summer as well as winter. The timetable will, therefore, be formed in accordance with departmental instructions. In the case of double-shift schools, the duration of the school day is shorter. It will, therefore, necessitate several changes in the school timetable.
- **Relative importance and difficulty of subjects:** The distribution of time and periods among the various school subjects is a matter of great importance. Each subject should be provided in the timetable according to its importance, which, of course, is determined by academic, social, economic and cultural considerations as well as by the future needs of the pupils.

There is also the consideration of the relative difficulty of subjects. Thus, more time in secondary schools is given to Mathematics and English, not because they are more important but because they are considered more difficult. In junior basic schools, more time is devoted to reading, writing, Arithmetic and Craft because of their difficult nature, as compared to Social Studies and General Science.

Similarly, the number of subjects, combination of subjects provided and the number of elective groups introduced in a particular higher secondary school must also be taken into consideration while framing a suitable timetable.

- **The element of fatigue:** Fatigue, in reality, is the state of inability to continue work after a prolonged activity of certain parts of the body. It is of two kinds: (a) Physical or muscular and (b) Mental or nervous.

When any part of our body works for a long time, a sort of chemical action is produced with the blood in that part. As this action is too great, the waste product in the body is produced to such an extent that it is too much to be carried easily by the blood. So we feel a sort of loss of energy, which is called fatigue.

Fatigue weakens attention and perception and diminishes the power of insight and initiation. Hence the work rate is also diminished. In the school, some subjects

are more fatiguing than others. They involve a heavy mental strain and effort. Such subjects should be taught during early hours when the brain is fresh.

It has been noted psychologically that the second and the third periods on a school day are the best when the work curve reaches its highest point. Similarly the second and the third days of the week are the best, when momentum is the highest.

Monday is only the warming up day and Saturday is perhaps the worst. So subjects like English, regional languages and Mathematics should be taught during the best periods of the day. Similarly subjects like arts, crafts, writing, science practicals and manual work, etc., that require less energy should be pursued in the last periods.

Lastly, the duration of periods must change according to age, physical condition and season. In summer, periods should be of shorter duration as compared to winter. Similarly, in the case of primary classes, periods should not be very long. Small children get fatigued very soon and so they need frequent changes in activities and occupations.

- **Variety:** The timetable should be constructed in a manner that it allows frequent change of places and posture to pupils. The same subject should not be taught continuously for many periods, nor should the same class sit in a particular room for the whole day. Change of seat, room and posture is the best remedy against fatigue. Similarly, easy and difficult subjects and lessons should be provided alternatively in the timetable for the sake of variety. If a subject is to be taught for two or three periods in a week, it should not be provided on consecutive days. It should, rather, be fixed in the timetable after regular intervals.
- **Elasticity:** As already stated, the timetable is an instrument to help us in carrying out the schoolwork smoothly and efficiently. It should, therefore, be not rigid and fixed. It should rather be made as flexible and elastic as possible. However, it should be adhered to unless there are special situations. There must be ample scope for adjustments and changes to meet the specific needs of certain categories of pupils.

Change may also be necessary because of the transfer or absenteeism of some teachers. It should, however, be remembered that the timetable should not become our master because of its rigidity. It should always act as a faithful servant.

- **Staff, equipment and building:** While constructing a good timetable, the number and qualifications of teachers, and the number and size of classes and classrooms and equipment should always be kept in view. Again in case of a school where one room is used for two classes, the timetable will be arranged in a different manner as compared to a school having a spacious building. Equipment and furniture available in the school also determine the construction of the timetable to a certain extent.
- **Pupil-centred:** In essence a timetable should be pupil-centred to maximize learning opportunities, arranged with a variety of activities, with subjects spaced to sustain the children's interests and motivation, and taking into account age, concentration span, ability range, single grouping, class sizes and pupil career ambitions.
- **Vertical as well as horizontal deployment of teachers:** Staff should be deployed vertically and horizontally across the timetable. This means that teachers with different qualifications as well as experience should teach at different levels. Along with this, their interest should also be kept in mind as teachers like to teach those subjects that they find interesting and have studied.
- **Balance:** There should be a balance in the timetable in the sense that not too many double periods or practical subjects should follow one after the other.

- **Efficient deployment of teachers:** The best and most efficient deployment of teachers can be achieved if:
 - the teachers have been selected with proper qualifications and experience, i.e. if the teacher has to teach the senior class, then her/his qualification and experience must be according to that. If a teacher is a postgraduate in a subject and is sent to teach pupils of class I, then his/her qualification is wasted. It also does not benefit the class to which he/she is sent. However, if the postgraduate teacher is fond of younger children, let him teach lower classes too.
 - all the subjects are fully covered
 - there is a staffing equilibrium in terms of experience, sex and age
 - the frequency of transfer of teachers is minimized
 - teaching loads are balanced across the timetable.
- Allowance has to be made within the timetable organization, including non-teaching time for:
 - Pupil registration, assemblies, time between periods to change books and materials, pupil guidance and welfare
 - Staff development including departmental meetings, staff meetings and in-service workshops.

Case Study

As usual, the timetable for the whole school had been prepared. Three classes – one each from the Junior section, Middle section and the Senior section – were sent to the play field during a particular period. This created a problem on the field. A pupil of the Junior section got hit by a stray ball as the senior class was playing cricket. The child was badly hurt. The School Head had a problem facing the parents. She was thinking how to avoid such accidents. She analyzed the timetable of all the three sections. She got them modified in such a manner that only one class could be on the play field in a particular period. But this was not possible for all the periods. Now she called the Physical Education teachers of all the three sections. She discussed the matter with them and it was decided that if more than one class is on the play field in a period, then the Physical Education teachers will co-ordinate and see to it that the three classes are in separate parts of the field, with one group practising Yoga or Aerobics, while another group is playing on the field; the third group, if any, may be involved in indoor games or some other activity. The School realized the importance of co-ordination between the three sections while preparing the timetable.

2.6 CONSTRAINTS OF TIMETABLE

Some factors that limit freedom in the design of school timetable are:

- **Time:** ‘Restricted time’ is time determined by superior authorities over which the head has no control. For example, the number of periods per day, the number of periods per subject, the length of a period, and the time of school broadcasts. ‘Disposable time’ is controlled by the school and reflected in the timetable, such as when a subject is taught, when registration occurs, the length of formal study time, the allocation of non-teaching time, and the use of double, single or triple periods.
- **Teacher availability:** This can seriously affect a timetable, determining class sizes, subject choice and the quality of education offered.

- **School building:** The design, type and number of rooms in the school building directly affect the timetable in the number and variety of subjects offered, the number of classes, the size of classes, the size of the school, the quality of study opportunity, library and usage, and teacher/pupil ratios.
- **Traditional attitudes:** These can militate against the innovative use of resources that would add to the school's efficiency, such as how the school hall is used, and the time of registration and assembly.
- **Lack of public utilities:** This can restrict the timetable, for example, no electricity can mean no evening work; a lack of water supply can affect Art, Science, Agriculture and Home Economics.
- **The timing of the school day:** This is related to the size of the school's catchment area. The greater the walking distance for pupils, the shorter the school day.
- **Adhering to the timetable:** If teachers do not adhere to the timetable, it will affect the functioning of the school as the curriculum will not be completed on time. Parents will be agitated, pupils will be overburdened as teachers will try and finish their work in the little time available. This will affect the performance of the students in the examination.

Case Study

The Head of a school had a problem. Class Xth, which was the seniormost class, had to appear for the Board examination. The class was facing great difficulty in Mathematics. The Mathematics teacher wanted to take extra classes within the school timings. But the timetable was very tight and the other teachers were not willing to give their periods as they also had to complete their courses. The School Head was being pressed by the Mathematics teacher for adjustment of extra classes within the timetable. She was in a quandary. She looked at the timetable closely. She also looked at the absentee pattern.

After great deal of speculation, she hit upon a solution. She observed that every day one teacher or the other of that class was on leave. The Head decided to give the period of the teacher on leave to the Mathematics teacher, who was happy to accept it. The other teachers were also happy as they did not have to part with their classes. The problem of the vacant class due to an absent teacher was also solved. The School Head succeeded in solving the problem because she focussed on it and thought of a solution.

Check Your Progress 2

Note: Write your answers in the space given below.

1. Explain the principle of Variety in Timetable construction.

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2. Mention 4 constraints in the preparation of a Timetable.

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2.7 TIMETABLE DESIGN IN PRIMARY SCHOOLS

At the Primary stage, generally there is one classroom or teaching area, and one teacher for each class. It is quite common in lower classes for teachers to draw up the timetable themselves, adopting a flexible approach to the day's activities, whereas in the remaining classes teachers follow a formal timetable. The steps involved in this process are:

Step 1: While designing the timetable the School Head should have all the relevant directives of the competent authority with regard to time and subject allocations. It is important to ensure that the timetable meets all the requirements of these directives.

Step 2: The School Head should have the list of all the teaching areas in the school.

Classrooms

Science room and activity rooms

Library

Hall

Playing fields

Garden/Lawn

Other spaces

This data available with the School Head will help him/her in many ways. It will tell how many classes may be accommodated in the school at one time. It should be noted that a class working for a period of time in the school garden, or on the playing field may be regarded as accommodated for that period. However, the extent to which it is necessary to plan the full use of every space will depend upon the strength of pupils.

Step 3: The School Head should also know the exact number of teachers available. Allocate teachers and classes to classrooms or teaching spaces.

Step 4: Special education teachers, if available, will have to be timetabled separately to serve the needs of pupils with special needs whilst they are part of a class. Individual class timetables will have to be consulted and possibly adjusted to remove classes. For doing this all the information should be available with the School Head.

Double Session/Shift: In some schools it has been found that the number of students studying is more than can be seated comfortably. In these schools double session arrangements have to be planned because the pupil strength is more than the capacity of the school building. Then it becomes necessary to maximize the use of the physical space and facilities by operating the school in two sessions. In some primary schools the two sessions overlap due to various reasons. Two sessions do not mean two schools; one head is in charge of the school for both sessions. Opportunities for co-curricular activities are reduced, but can exist for each session provided there is a timetabling plan to make use of the recreational and game facilities, the school garden and library. Without such timetables (one for each session) classroom instruction and learning will remain the sole means of education and many of the wider values of schooling will be lost.

2.7.1 Responsibilities of the Head Teacher

In the lower classes of primary schools, timetabling is often an integral part of the classroom teachers' duties. The head approves the timetable and then prepares the general timetable for the school.

The overall responsibilities of the head are to ensure that:

1. Directives and policies are followed.
2. Every teacher makes the optimum use of school resources.
3. Clashes between individual teachers' timetabling demands are resolved amicably and fairly.
4. Special education teachers are allocated classes appropriately.

Activity

During your rounds in the school as Head, you find some classes getting restless towards the end of the day. You understand that one solution to the problem could be in readjusting the sequencing of subjects in the timetable. Of course, there are other reasons, too. Ask your teachers to conduct an action research to find out the reasons for this restlessness and also solutions to the problem, particularly relating it to the timetable.

Check Your Progress 3

Note: Write your answers in the space given below.

1. Give the steps involved in timetable preparation at the Primary stage.

2. Write a note on the responsibility of the Head in timetable design at the Primary stage.

2.8 TIMETABLE PREPARATION IN SECONDARY SCHOOLS

A secondary school timetable consists of three major components which themselves can be the bases of separate timetables, namely: teachers, classes or teaching groups, and classrooms. At this stage, there are different subject teachers teaching each class. Therefore, there has to be a formal timetable for all the three components, i.e., the teachers, the classes and the classrooms. The steps involved will be:

Step 1: List the number of teaching rooms, etc. in the school.

	NUMBER	LIMITING FACTORS
Classrooms		
Laboratories		
Workshops		
Outdoor teaching areas		
Gymnasium		
Library (if classes are held there)		
School garden		
School hall		

Step 2: Note any limiting factors, e.g. the teaching space can only accommodate half a class, cannot be used for academic work or examinations, or can only be used for certain types of lessons.

Step 3: List the number of teaching subjects and identify each as either 'core' or 'optional'.

A core subject is one that all pupils must study; an optional subject is one that a pupil can opt to study.

SUBJECT	CORE	OPTIONAL
_____	_____	_____
_____	_____	_____

Step 4: Ensure that the time allotments prescribed by the authorities are adhered to. Perhaps the most common pattern is 40-minute teaching periods, an eight-period day, and a five-day week with each covering 40 periods a week.

Step 5: List your teachers by name and subject. Include the classes to be covered and the expected teaching loads. Note any teacher's shortages or surpluses.

NAME	TEACHING SUBJECTS		ASSES	LOAD
	SUBJECT 1	SUBJECT 2		
_____	_____	_____	_____	_____
_____	_____	_____	_____	_____
_____	_____	_____	_____	_____
_____	_____	_____	_____	_____
_____	_____	_____	_____	_____
_____	_____	_____	_____	_____

Areas with teacher shortages:

Surpluses:

Step 6: Collect data on pupil preference in optional subjects, and modify in terms of Step 5 above.

PUPIL'S NAME	OPTIONAL SUBJECTS AVAILABLE			
_____	_____	_____	_____	_____
_____	_____	_____	_____	_____
_____	_____	_____	_____	_____
_____	_____	_____	_____	_____
_____	_____	_____	_____	_____
_____	_____	_____	_____	_____

Step 7: Using the above information, adjust your optional subject programme to ease the teacher shortage if this is possible. If not, there are alternative methods that could be used to ensure that as many options are available as possible. For example, you could reduce the number of weekly teaching periods or combine classes if possible.

Step 8: Meet subject department heads to find their timetabling needs with regard to:

1. Preferred teaching time during the day
2. Subject weekly timetable distribution
3. Single, double, or triple periods
4. Study time requirements
5. Departmental meeting time requirements.

Remember to involve all the teachers in timetable compilation whenever possible.

In some countries the junior secondary programme takes place in schools specifically designed and built for this level of education. Each school has a standard number of buildings determined by the size of the school pupil population, and a common academic programme over two or three years. A major difference between schools is in staffing. Some teachers are qualified to teach two subjects, others are not. The permutation of teaching subjects offered often varies a lot and this distinguishes one junior secondary school from the next.

Step 9: Identify the amount of non-teaching time that should be timetabled, to allow for registration or extended registration, for student welfare and guidance, for assemblies and for meals.

Step 10: There are several ways of presenting a timetable, for example a large sheet of paper using colour coding, magnetic board, peg board, pin board. Choose the most convenient way for your situation. You must keep the following points in mind:

- Keep in view the reasons for timetabling subjects with specialist rooms and a large number of periods, such as science, before any other subject.
- If the school is new, or for some reason its facilities are under-utilized, then it might be best to timetable first a teacher teaching two subjects, or a subject which has the greatest number of teaching periods.
- Work across the timetable entering three pieces of information at the same time: 'subject', 'teacher' and 'room'.
- Do not try to complete one day and then move on to the next – such an approach will lead to chaos!
- After entering a subject across the timetable, check teacher and room timetables to ensure that all the information matches.
- In making entries think both laterally and vertically so that the final entries will cause fewer problems.
- Determine the order in which information is going to be entered on the timetable. Priorities will have to be fixed. If there is a great demand on specialist teaching facilities, then the subjects, teachers and classes using these rooms should be entered first.
- The teacher timetables and room timetables should be compiled simultaneously.

2.9 TIMETABLE PREPARATION IN SENIOR SECONDARY SCHOOLS

The senior secondary course is usually either a two-year or a three-year programme. In a three-year programme the first year could be an exploratory year in which pupils are introduced to a wide spectrum of subjects in order to identify interests, aptitudes and abilities that can then be translated into subjects to be studied during the last two years.

A typical first year programme, on a 40-period cycle, may be built up of English (Language and Literature) 8, Mathematics 6, Mother Tongue 5, Science 6, History 3, Geography 3, Careers/Guidance 2, Agriculture 3, and Technical/ Home Economics/ Art 4.

The element of subject rotation arises in Technical/ Art/ Home Economics where rotation between these subjects may take place to enable pupils to experience each subject and decide (with guidance) which subject to study in depth. Rotation may take place throughout the course or for a limited period of time in the first few weeks in these particular subject areas.

At the end of the first year, pupils, with guidance, opt for the Certificate subjects they will study. Pupil choice, within the other parameters that have been identified, will help to determine the character of the timetable.

In a two-year senior secondary school programme pupils enter the final stage of their senior secondary course immediately. Subject choice would then be determined by the following factors:

- Secondary school results
- External examination requirements
- Local regulations
- Availability of staff and specialist rooms
- Pupil needs, attitude and interests.

The steps of Timetable preparation at the Senior Secondary stage are the same as those enumerated for secondary schools. The following points need to be kept in mind:

- Decide on time allotments in compliance with the directives and policies, including whether the timetable should cover five, six or seven days. However, choice of time and length of teaching day have to be justified.
- Work out a programme that will meet pupil needs for a year. Translate the programme into timetable form.
- Identify, with justification, the subjects, if any, that you intend to prioritize.
- List the option groups you intend to form, indicating subjects and size of classes in each subject.
- Determine the freedom of choice you will give to your pupils. Also, think of the limiting factors.
- It is imperative that each school head selects or devises a pupil-centered timetabled programme that is most appropriate to the school's circumstances.

2.9.1 The Time Frame

Length of Periods: The 40-minute period fits well with recent research that the attention span of the average secondary pupil begins to decline after 30/40 minutes. Double periods of 80 minutes reduce the amount of work for timetable framers but their desirability must be carefully considered, taking into account the amount of project and practical work in a subject. Multiple periods suit practical subjects but create problems when dealing with theoretical subjects.

Length of Day/Number of Periods per Day: Usually the morning hours are timetabled for teaching and learning with the afternoons devoted to individual study and co-curricular activities. Climatic conditions are a major factor in deciding this arrangement. Eight 40-minute periods fit well into the morning session. However, a timetable based on nine 35-minute periods gives greater flexibility for the timetable framer.

Length Cycle: Instead of the conventional five-day week, it is possible to have six-day or even seven-day weeks, an arrangement which gives more flexibility in subject/period allocations, and also means that teachers/pupils are not tied to a particular subject for the same days in a week throughout the term or year.

2.9.2 Timetabling Devices for Alternative Pupil Grouping: Blocking and Setting

Blocking: This occurs where certain classes are timetabled together throughout the timetable for key subjects such as Mathematics or English. The number of groups created depends on the number of subject teachers available. Given this arrangement it is possible to:

1. Form ability groups or mixed ability groups of different sizes
2. Change teachers according to the topic being taught
3. Cover for absent teachers with the minimum disruption
4. Form smaller or larger groups according to teacher availability.

This device can only be used in larger schools where there are sufficient classes in the same year and sufficient subject teachers.

Example of *Blocking*:

	MONDAY								TUESDAY								WEDNESDAY							
	1	2	3	4	5	6	7	8	1	2	3	4	5	6	7	8	1	2	3	4	5	6	7	8
1A	E			M								M									E	M		
1B	E			M								M									E	M		
1C	E	M											M						M		E			
1D	E	M											M						M		E			
1E	M									E										M				E
1F	M									E										M				E
1G									M	E														E
1H									M	E														E

(E = English; M = Mathematics)

Mathematics and English have been blocked on the timetable for Monday, Tuesday and Wednesday.

Setting: This device is used to provide alternatives for pupils within the slot on the timetable. It is essential where classes have to be half the normal size, for example, Design and Technology, Art, Home Economics. A number of classes within the same

year can be timetabled together one from the selection of optional subjects on offer. There is no reason why the same option group cannot be offered twice on the timetable affording the pupils a second alternative. Option columns may contain more classes than the nominal number of classes having access to them, permitting the creation of small classes in certain practical subjects without overloading other subject classes. Adjustments can be made from year to year in the contents of these option columns. Thus if the demand for Geography falls and that for Development Studies rises, Geography can be replaced in part by Development Studies provided the school has teacher capability.

Example of *Setting*

	MONDAY								MONDAY								MONDAY							
	1	2	3	4	5	6	7	8	1	2	3	4	5	6	7	8	1	2	3	4	5	6	7	
1A		D & T / H E	G / D S / H H							D & T / H E	G / D S / H H							D & T / H E	G / D S / H H					
1B																								
1C																								
1D																								
1E																								
1F		D & T / H E	G / D S / H H							D & T / H E	G / D S / H H						D & T / H E	G / D S / H H						
1G																								
1H																								

Design and Technology (D & T) is set against Home Economics (HE); with half the class taking one subject and half the other. Geography (G) is set against Development Studies (DS) and History (H).

Both blocking and setting are infinitely better than streaming where whole classes are decided on the ability levels of pupils.

2.9.3 Role of School Head

The Head should ensure that the school timetable gives full information in three distinct areas, namely: teaching stations, teaching staff and class distribution, and subjects taught at certain times for each teaching day.

In order to compile a meaningful timetable the school head should consult others so as to make full preparations and collect all the relevant data. A standing timetable committee of teachers with at least one timetable expert teacher as convenor may be constituted at the beginning of a session every year. He/she must possess the expertise to direct the production of a timetable that will serve the needs of all categories, intellects and aptitudes among the school's pupils. Finally, the Head must know and be able to apply such timetable devices as blocking, setting, the extended day and week, and double sessions, in order to meet the special circumstances which may prevail in the school.

Check Your Progress 4

Note: Write your answers in the space given below.

1. What are the steps involved in timetable design at the Secondary and Senior Secondary stage?

.....
.....
.....

2. Explain Setting.

.....
.....
.....

2.10 LET US SUM UP

In this Unit, we have focussed on the timetable in school. We discussed the need and importance of Timetable. The different types of timetables were listed. We went on to explain the principles of timetable construction as also the constraints of timetable. Timetable designs at various stages of school – Primary, Secondary and Senior Secondary – were discussed, tracing the steps involved in the process. The role of the Head Teacher as leader in the school was brought out at appropriate points. Timetabling devices like Blocking and Setting were also explained. The time frame in terms of periods and period cycle are important factors in timetabling that were discussed.

The need and importance of timetable cannot be overstated. A timetable is the guideline for the teachers to do their work systematically and in a disciplined manner. This can be thought of as the tool in the hands of the Head to maintain discipline and to ensure smooth functioning of the school, utilizing the services of the teachers optimally. It is the plan in the Head's hand for conducting the school activities in a well-organized manner.

2.11 UNIT-END EXERCISES

1. Write an essay on the need and importance of timetable.
2. What is the need for different types of timetable? Explain bringing out the various types of timetable.
3. Discuss the Principles of Timetable Construction.
4. Discuss timetable construction at i) Primary and ii) Secondary stages.
5. Discuss the role of the Head Teacher in managing the timetable.