The Gregorian calendar was introduced in March 1582 by Pope Gregory XIII. It was subsequently adopted by various countries at different times. Great Britain adopted it on 2 September 1752, whereas Russia didn’t adopt it until 1917. At present almost every country in the world uses this calendar.

The Gregorian calendar has a number of drawbacks. The Earth revolves around the Sun and completes one revolution in 365 days, 5 hours, 48 minutes and 46 seconds; i.e. the length of one tropical year is 365.2422 days. This fractional part makes the formulation of the calendar difficult – although the Gregorian calendar is better than the Julian calendar, as the average duration of the year improved from 365.2500 to 365.2425 days. The difference, therefore, between the average duration of the Gregorian year and the length of the tropical year remains 0.0003 days instead of 0.0078 days. However, this means that the Gregorian calendar is out by 0.0003 days per year, which will amount to 3 days in 10,000 years. A calendar needs to be devised in such a way that the average duration of a year is exactly equal to the length of a tropical year.

A solution to the above problem is given in “Reform of the Gregorian Calendar” (M Iftikhar Ahmad 1992 J. Sci. Res. P U Lahore, Pakistan XXI 1&2 57–63) where the following formula is suggested:

A year divisible by four will be a leap year, provided that it is not a multiple of 100. In the case where a year is a multiple of 100, it will be a leap year only if the number obtained by suppressing the zeros on the right is divisible by four.

By this formula, the years 2000, 6000 and 10,000 would not be leap years, despite being divisible by 400, as they are according to the Gregorian calendar. In this way, the 3 days difference in 10,000 is adjusted. Similarly, during the following 10,000 years, the years 14,000, 18,000 and 20,000 would not be leap years, and the average duration of the calendar year is reduced to 365.2422 days per year. This agrees with the length of a tropical year.

The formula set out above are based on the assumption that the length of a tropical year is constant, whereas according to the Explanatory supplement to the Astronomical Ephemeris and the American Ephemeris and Nautical Almanac, 1961 it is shrinking and even the new formula given above will eventually get out of step. The shrinkage according to the formula is given by table 1, where $T$ is the time in Julian centuries from the epoch; the terms in $P_0$ and $\lambda$ in the 1992 edition are too small to affect the discrepancy. This means that the tropical year is shortening in days by 0.00000614 per millennium.

The Gregorian calendar is hazardous in the sense that the number of days in a month varies from 28 to 31. They should be equal in length as far as possible. It is important from the point of view of business and banking that the year should be divided into as near as possible four equal quarters, each of three months. In the Gregorian calendar, the first, second, third and fourth quarters of a normal year are of 90, 91, 92 and 93 days respectively.

In view of all these deficiencies, the Gregorian calendar is not compatible with the present age, and in the New World order, a new calendar is required. This calendar should be devised in such a way that it removes the defects of the present calendar and at the same time is simple, regular, uniform and meets all other requirements as far as possible. Keeping in view all these considerations, the following calendar is suggested:
- The first month of every quarter and the last month of the year, i.e. January, April, July, October and December, will each have 31 days.
- The remaining months, i.e. February, March, May, June, August, September and November, will each have 30 days.
- In leap years, June will have 31 days. By increasing the length of July by one day, the quarters of 91 and 92 days will be placed alternately during the leap year.
- To make this calendar conform with the changing tropical year, the following formula is suggested:
  - A year divisible by four will be a leap year, provided it is not a multiple of 100.
  - In the case where a year is a multiple of 100, then it will be a leap year during the period $P_0$, if it is divisible by 400 but not by 4, where $\lambda$ forms an arithmetic progression as given in table 2.

Note that by the year AD 37,000, the length of a tropical year will become 365.2400 and no century year will be a leap year.

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