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Brij's Modified GREGORIAN WORLD

PERPETUAL CALENDAR
(13th NEVER A FRIDAY)
Leap SUNDAY 'every 4th year/skip 128th-years'; Or use Div.6 Rule with Keplers' Leap Weeks

January	February	March
M T W T F S S 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	M T W T F S S 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	M T W T F S S 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
April	May	June
M T W T F S S 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 25 26 27 28 29 30	M T W T F S S 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	M T W T F S S 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 31st: LEAP SUNDAY
July	August	September
M T W T F S S 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	M T W T F S S 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	M T W T F S S 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
October	November	December
M T W T F S S 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 25 26 27 28 29 30 31	M T W T F S S 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	M T W T F S S 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 (31st: World Peace Day)

duration remaining over 364-days' i.e. 1.242189669781 day, using DIVIDE six(6) Leap Weeks plan.
Details at Home Page: <http://www.brijvij.com/> & Calndr-L archives.

New Year | How two alternative calendars compare:

Symmetry454

Leap years: December expands from 28 to 35 days. Leap years occur every five or six years.

Pros: Every month, quarter and year begin on Monday and end on Sunday. In non-leap years, every quarter has 91 days, of which 65 are weekdays and 26 are weekends. Perpetual.

Cons: Leap-year algorithm hard to work out in your head. We would have to get used to May 33rd.

Average year length: 365.2423 days



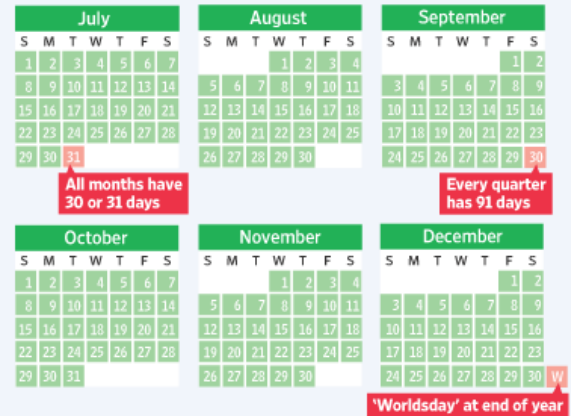
The World Calendar

Leap years: Just like the Gregorian calendar. In leap years, there is a 'Leapyear Day' tacked on to June.

Pros: Perpetual, simple to remember. Symmetrical quarters.

Cons: Judeo-Christian belief requires resting on the the seventh day. Adding Worlddays would disrupt the weekly Sabbath cycle.

Average year length: 365.2425 days



Sources: Irv Bromberg, University of Toronto; TheWorldCalendar.org

TWO (above) earlier options: (a) 454 calendar by Irv Bromberg and (b) The World Calendar discussed at United Nations (1955) by World Calendar Association – the proposal, however, fell through due to a Veto by United States.

“NEVER DID MAN INVENT A SYSTEM TO INSERT A LEAP WEEK USING Divide six(6) PLAN and obtain comparable Mean Year and Mean Luration as with my cycle: 896-yrs/159 LWks; 834-yrs/148 LWks or the combination 9*1730-yrs/21397 luration and 15*399-yrs/4935 luration, with minor 'Tithi Adjustments'. Please see several cycle tabulated 'chart of Mean Year/Luration/Tithi distribution at: http://www.brijvij.com/bb_harappaTithi-Cycles.pdf

Author.

REFERS to: http://www.brijvij.com/bb_metro-contrbn.2007.pdf
This format is of ALTERNATE proposed World Calendar by **Brij Bhushan Vij, a Retd. IAF Officer**, on removing the day from July 31st and shifting 'this date' to 2nd month as February 29th (during ALL Years), making FOUR EQUAL quarters of 91-days (or 13 Weeks) with year of 364-days (7*52 weeks). 365th day (December 31st) is kept outside of the FORMAT as World Peace Day. Leap Day is shifted from February to between June 30th and July 01st making TWO half years equal of 183 days. Mean Year value is improved using 128-year cycle (also resolving YEAR 'Zero' anomaly: replacing Leap Day Rule from div.four(4)/skip 100th/count 400th -years to div. four(4)/skip 128th -years getting Mean Year =(365+31/128)= 365.2421875 days. Same Mean Year is obtained when the format is used to accommodate 'time

RULES: Alternate World Calendar

- (a) The New Calendar shall have an 'improved Mean Year value' over Julian or running Gregorian calendar; and as far closer to current Average Astronomer's Mean Year Value;
- (b) Year format shall not be much different (for easy memorizing) months in the year, days in the month or cyclic days in the week – starting on Monday (01), Tuesday (02), Wednesday (03), Thursday (04), Friday (05), Saturday (06) and Sunday (07/00);
- (c) 12-months in the year shall have FOUR equal quarters & TWO equal half years (on inserting the Leap Day); OR have FOUR equal quarters with a Leap Week placed outside of the format, to account 'extra seven days' adjusting 1.242189669781 day over 364-day format, without causing any break in SABBATH cycle.
Leap Weeks: A year shall have the extra Leap Week, if and only if, year number is additionally divisible by SIX (6), unless it is one among the planned Additional Keplers' Leap Week of Year XXXX, as per cycle plan;
- (d) The 'new format' shall be easy to understand and follow, like the current popular calendars and cheap to implement;
- (e) Passage of Time count shall be linked to 'angular transit' of Sun-Moon-Earth in their orbital paths;
- (f) The calendar format shall basically be of SOLAR calendar, but also cater to LUNAR needs and used as 'lunisolar calendar'.

KEEPING THESE RULES IN MIND, FOLLOWING FORMAT OF A POSSIBLE WORLD CALENDAR IN SUGGESTED:

1. Format of this calendar NEVER has a 13th on Friday in any month; and starts on Sunday (00), Monday (01) thro Saturday (06) as week days, in continuation of Gregorian calendar – Monday, 2007 January 01 (MJ D 54101).
2. Format of this calendar is made using 364-days in 12 months, with 4 EQUAL QUARTERS of 91-days (or 13 weeks) by shifting the day of July 31st to 'second month' i.e. February 29th during ALL years, leaving remaining 1.242189669781 days – to be accommodated as Leap Days or Leap Weeks.
3. 365th day of year (December 31st) is placed after December 30th but before January 01st of next year, as *World Peace Day*; A Leap Day is placed after June 30th but before July 01st once every four years, except the 128th – on modifying current Leap Day Rule *from div.4/skip100th/count 400th years TO div.4/ skip 128th* getting Mean Year =(365+31/128) days i.e. 365.2421875 days, from current values [Julian calendar= 365.25 days & Gregorian calendar =365.2425 days].
4. **Decimalisation of Time of the HOUR:** Distribution of time of the day in 24-hours *is retained*; instead the HOUR and the minute related to arc-angle are divided into 100 divisions (along with present 60) as: 24x60x60 (86400 second, s) =24x100x100 (240000 decimal second, (s_d) – the 'new time unit' – decimal second, s_d=36% of s and Arc-angles in a quadrant are likewise 'equated' as 90°x60'x60" =90°x100'-arcx100"-arc; bettering target resolution to 278%.
5. **Era and Keplers' Leap Weeks – "NEVER DID MAN INVENT A SYSTEM TO INSERT A LEAP WEEK USING Divide six (6) PLAN"** Era start is taken at $\{[(Y2000 - 80) \pm 128] \div 128\}$ i.e. Year Zero '0000'. 15*128=Y1920, which make the "first natural Added Keplers' Leap Week of Y2007" after LY2004 & before LY2010, which being 'normal LWk years' divisible by SIX (6). Thus,

- YEARS DIVISIBLE BY SIX(6) shall have a Leap Week; and in addition Additional Keplers' Leap Week are inserted at intervals of 90 or 84 as per cycle plan, the first insertion being 3-years earlier i.e. 87th when using (3*896)=2688-year plan. [Refer: http://www.brijvij.com/bbv_klwks_div.6.pdf]
6. Mean Year value is enhanced to $(365+31/128) = 365.2421875$ days from current values [Julian calendar=365.25 days & Gregorian calendar =365.2425 days]. A 1200-years cycle uses 13 AKLWks to result in current Gregorian Mean Year of 365.2425 days, on using Div.six (6) plan.
 7. Same Mean Year (365.2421875 days) value is obtained when used with 7*128 =896-years/159 (div. six + Addl. Keplers' Leap Weeks) LWks $[7*(52+159/896)=365.2421875$ days (365d 5h 48m 45s). Since 896-years is not divisible by six(6), 3*896=2688-yrs/477 (448+29) Leap Weeks give $7*(52+1/6+29/2688)$ i.e. 29 Additional Keplers' Leap Weeks are needed, when symmetrically placed. Please see: http://www.brijvij.com/bbv_Prop-8019-yrSaros.div6LWks-distr....pdf
 8. The alternate cycle of 834-years/148 (139 div.six+9 AKLWks) results in, closer to tropical mean year value = $7*(52+1/6+9/834)$ days =365.242206235012 days (365d 5h 48m 46s.6187).
 9. **TITHI & LUNATION:** Using a 'new Tithi/Phase' value of ONE lunation/29 ½ 'tithi' make the lunar year =354.0 Tithi. **This tithi/phase value is 1.00103690881356 day (24h 1m 29s.5889).** *This 'tithi value' reconcile, and I believe, was 'the possible' value used during Indus/Harappa civilisation.* Other values closer to THIS are: 966/965 = 1.001036269430052 day (24h 1m 29s.5337) =138week/965; 235 lunation/19-yrs =1.0000125031132 day (24h 0m 1s.08027). Other values in common use –
 - (a) 1/30th Lunation =23h 37m 28s.0958, and (b) 1/29th Lunation =24h 26m 20s.78873.
 10. 19-years are closer to 235 lunation, distributed in (5*47)lunation (1388 day) blocks, ignoring differential 'in excess of 2 h 4m 56s.636' – for estimating accurate new ***lunisolar cycles***, for continuous count of days/tithi. Apart from several cycles, which I listed: http://www.brijvij.com/bb_harappaTithi-Cycles.pdf TWO cycles, apart from my (7*128) =896-years & 834-years, need special attention:
 - (a) 1730-yrs (1783 lunar years)/21397 lunation/631214½ tithi. Since 21397 lunation is short of THREE tithi (One tithi can be added symmetrically at intervals of 7132nd, 14265th & 21397th lunation). These added days/tithi 'automatically compensate' one lunation over 9 cycles of 1730-years (i.e. in 15570-years/192574 lunation). This is 812403 weeks.
Mean Year =5686821/15570 =365d 5h 48m 45s.78035 and
Mean lunation =5686821/192574 =29d 12h 44m 1s.702.
 - (b) 399-yrs/4935 lunation (411.24435 lunar years)/145580½ tithi. 4935 lunation is in excess of TWO tithi (One tithi need be symmetrically removed at intervals of 2475 lunation). This 'compensate' one lunation over 15 cycles of 399-yrs (i.e. in 5985-yrs/74024 lunation). This is 312282 weeks & (2183710 tithi).
Mean Year =2185974/5985=365d 5h 48m 37s.8947 and
Mean lunation =2185974/74024=29d 12h 44m 4s.8503.
- ACHIEVING THESE VALUES, to me appear, fascinating and comparable to any modern 'calendar values' for Reform a futuristic Calendar.*

Brij Bhushan Vij, Author.