

# Astrodienst Ephemeris Tables for the year 1863

tropical geocentric zodiac

contains Sun, Moon, Mercury, Venus, Mars, Jupiter, Saturn, Uranus, Neptune, Pluto, True Node, Moon's Node, Lilith, Chiron

Programming
Dieter Koch and Alois Treindl
based on Swiss Ephemeris
Code D5EPX

JANUARY 1863 00:00 UT

| UAITO | ,,,,,, _, | ,05      |                 |                |                |                |                |               |                |               |               |                 |                |                | 00.0            |      |
|-------|-----------|----------|-----------------|----------------|----------------|----------------|----------------|---------------|----------------|---------------|---------------|-----------------|----------------|----------------|-----------------|------|
| Day   | Sid.t     | 0        | D               | ğ              | φ              | ď              | 4              | ħ             | )∤(            | ¥             | Р             | n               | v              | Ç              | ķ               | Day  |
| T 1   | 6 40 36   | 10ට 8'13 | 25821           | 15 <b>ට</b> 31 | 15 <b>ਰ</b> 11 | 22 <b>Y</b> 51 | 24 <b>Ω</b> 49 | 5 <b>₽</b> 21 | 17°R48         | 1Υ11          | 9°R31         | 16 <b>₹</b> 2   | 14 <b>∡</b> 47 | 28∐49          | 3 <b>∺</b> 5    | T 1  |
| F 2   | 6 44 33   | 11° 9'21 | 7 <b>Ⅱ</b> 12   | 17° 9          | 16°27          | 23°20          | 24°56          | 5°23          | 17 <b>Ⅱ</b> 45 | 1°11          | 9 <b>8</b> 30 | 16° 3           | 14°44          | 28°56          | 3°8             | F 2  |
| S 3   | 6 48 29   | 12°10'30 | 19° 0           | 18°47          | 17°42          | 23°48          | 25° 3          | 5°24          | 17°43          | 1°12          | 9°30          | 16°R 4          | 14°40          | 29° 2          | 3°11            | S 3  |
| S 4   | 6 52 26   | 13°11'38 | 09647           | 20°26          | 18°58          | 24°17          | 25° 9          | 5°25          | 17°41          | 1°13          | 9°29          | 16° 3           | 14°37          | 29° 9          | 3°14            | S 4  |
| M 5   | 6 56 22   | 14°12'46 | 12°37           | 22° 5          | 20°13          | 24°46          | 25°16          | 5°26          | 17°39          | 1°14          | 9°29          | 16° 0           | 14°34          | 29°16          | 3°17            | M 5  |
| T 6   | 7 0 19    | 15°13'54 | 24°31           | 23°44          | 21°29          | 25°16          | 25°22          | 5°28          | 17°36          | 1°14          | 9°29          | 15°56           | 14°31          | 29°22          | 3°20            | T 6  |
| W 7   | 7 4 15    | 16°15'02 | 6 <b>Ω</b> 31   | 25°23          | 22°44          | 25°45          | 25°29          | 5°28          | 17°34          | 1°15          | 9°28          | 15°51           | 14°28          | 29°29          | 3°23            | W 7  |
| T 8   | 7 8 12    | 17°16'10 | 18°38           | 27° 3          | 23°59          | 26°15          | 25°35          | 5°29          | 17°32          | 1°16          | 9°28          | 15°45           | 14°25          | 29°36          | 3°26            | T 8  |
| F 9   | 7 12 8    | 18°17'18 | 0 <b>m</b> 55   | 28°42          | 25°15          | 26°45          | 25°41          | 5°30          | 17°30          | 1°17          | 9°28          | 15°39           | 14°21          | 29°42          | 3°29            | F 9  |
| S 10  | 7 16 5    | 19°18'25 | 13°23           | 0≈22           | 26°30          | 27°15          | 25°47          | 5°31          | 17°28          | 1°18          | 9°27          | 15°34           | 14°18          | 29°49          | 3°32            | S 10 |
| S 11  | 7 20 2    | 20°19'32 | 26° 5           | 2° 1           | 27°46          | 27°45          | 25°52          | 5°31          | 17°26          | 1°19          | 9°27          | 15°30           | 14°15          | 29°56          | 3°35            | S 11 |
| M12   | 7 23 58   | 21°20'40 | 9 <b>॒</b> 2    | 3°41           | 29° 1          | 28°16          | 25°58          | 5°31          | 17°24          | 1°20          | 9°27          | 15°28           | 14°12          | 0ණ 2           | 3°38            | M12  |
| T 13  | 7 27 55   | 22°21'47 | 22°18           | 5°19           | 0≈16           | 28°46          | 26° 3          | 5°32          | 17°22          | 1°21          | 9°27          | 15°D27          | 14° 9          | 0° 9           | 3°41            | T 13 |
| W14   | 7 31 51   | 23°22'54 | 5 <b>M</b> 55   | 6°58           | 1°32           | 29°17          | 26° 8          | 5°32          | 17°20          | 1°22          | 9°26          | 15°27           | 14° 6          | 0°16           | 3°44            | W14  |
| T 15  | 7 35 48   | 24°24'01 | 19°55           | 8°36           | 2°47           | 29°48          | 26°13          | 5°R32         | 17°18          | 1°23          | 9°26          | 15°29           | 14° 2          | 0°22           | 3°48            | T 15 |
| F 16  | 7 39 44   | 25°25'08 | 4 <b>√</b> 17   | 10°12          | 4° 3           | 0819           | 26°18          | 5°32          | 17°16          | 1°24          | 9°26          | 15°30           | 13°59          | 0°29           | 3°51            | F 16 |
| S 17  | 7 43 41   | 26°26'14 | 18°59           | 11°48          | 5°18           | 0°50           | 26°23          | 5°32          | 17°14          | 1°25          | 9°26          | 15°R30          | 13°56          | 0°36           | 3°54            | S 17 |
| S 18  | 7 47 38   | 27°27'20 | 3 <b>ප</b> 57   | 13°22          | 6°33           | 1°22           | 26°27          | 5°31          | 17°13          | 1°27          | 9°26          | 15°29           | 13°53          | 0°42           | 3°58            | S 18 |
| M19   | 7 51 34   | 28°28'26 | 19° 4           | 14°54          | 7°49           | 1°53           | 26°31          | 5°31          | 17°11          | 1°28          | 9°26          | 15°26           | 13°50          | 0°49           | 4° 1            | M19  |
| T 20  | 7 55 31   | 29°29'31 | 4≈ 9            | 16°24          | 9° 4           | 2°25           | 26°36          | 5°30          | 17° 9          | 1°29          | 9°25          | 15°20           | 13°46          | 0°56           | 4° 5            | T 20 |
| W21   | 7 59 27   | 0≈30'35  | 19° 5           | 17°51          | 10°19          | 2°57           | 26°40          | 5°30          | 17° 7          | 1°30          | 9°25          | 15°13           | 13°43          | 1° 2           | 4°8             | W21  |
| T 22  | 8 3 24    | 1°31'39  | 3 <b>) (</b> 40 | 19°15          | 11°35          | 3°29           | 26°43          | 5°29          | 17° 6          | 1°32          | 9°25          | 15° 5           | 13°40          | 1° 9           | 4°11            | T 22 |
| F 23  | 8 7 20    | 2°32'41  | 17°51           | 20°35          | 12°50          | 4° 1           | 26°47          | 5°28          | 17° 4          | 1°33          | 9°25          | 14°58           | 13°37          | 1°15           | 4°15            | F 23 |
| S 24  | 8 11 17   | 3°33'42  | 1 <b>Y</b> 33   | 21°50          | 14° 5          | 4°34           | 26°51          | 5°27          | 17° 3          | 1°35          | 9°D25         | 14°52           | 13°34          | 1°22           | 4°19            | S 24 |
| S 25  | 8 15 13   | 4°34'42  | 14°46           | 23° 0          | 15°20          | 5° 6           | 26°54          | 5°26          | 17° 1          | 1°36          | 9°25          | 14°48           | 13°31          | 1°29           | 4°22            | S 25 |
| M26   | 8 19 10   | 5°35'42  | 27°33           | 24° 3          | 16°36          | 5°39           | 26°57          | 5°25          | 17° 0          | 1°37          | 9°25          | 14°46           | 13°27          | 1°35           | 4°26            | M26  |
| T 27  | 8 23 6    | 6°36'39  | 9 <b>8</b> 57   | 25° 0          | 17°51          | 6°12           | 27° 0          | 5°24          | 16°58          | 1°39          | 9°25          | 14°D45          | 13°24          | 1°42           | 4°29            | T 27 |
| W28   | 8 27 3    | 7°37'36  | 22° 4           | 25°49          | 19° 6          | 6°44           | 27° 3          | 5°23          | 16°57          | 1°40          | 9°26          | 14°46           | 13°21          | 1°49           | 4°33            | W28  |
| T 29  | 8 31 0    | 8°38'32  | 3 <b>II</b> 59  | 26°29          | 20°21          | 7°17           | 27° 5          | 5°21          | 16°56          | 1°42          | 9°26          | 14°47           | 13°18          | 1°55           | 4°37            | T 29 |
| F 30  | 8 34 56   | 9°39'26  | 15°47           | 27° 1          | 21°36          | 7°50           | 27° 8          | 5°20          | 16°54          | 1°43          | 9°26          | 14°R48          | 13°15          | 2° 2           | 4°40            | F 30 |
| S 31  | 8 38 53   | 10≈40'19 | 27 <b>Ⅲ</b> 33  | 27≈22          | 22≈52          | 8 <b>8</b> 23  | 27 <b>₽</b> 10 | 5 <b>≏</b> 18 | 16Ⅲ53          | 1 <b>Y</b> 45 | 9 <b>8</b> 26 | 14 <b>×7</b> 47 | 13 <b>×</b> 12 | 2 <b>9</b> 5 9 | 4 <b>) (</b> 44 | S 31 |

| Day  | 0   | D   | ğ   | ·   | ð   | 4   | ħ  | )∤(                                 | <del>1</del> f  | Р  | ម ប  | Ç  | , k  |
|--|---|---|---|---|---|---|--|-------------------------------------|---|--|--|--|--|
|  | decl                                      | decl lat  | decl lat  | decl lat  | decl lat  | decl lat  | decl lat   | decl lat                            | decl lat  | decl lat   | decl de  | cl decl  | decl lat   |
| T 1<br>F 2<br>S 3                                  | 22 59                                     | 22 20 0 49  | 24 25 2   | 3 23 s27 0 s52<br>5 23 20 0 54<br>6 23 12 0 56                                | 9n33 0n42<br>9 45 0 44<br>9 56 0 45   | 8 s 2 6 1 n 1 6<br>8 2 9 1 1 6<br>8 3 1 1 1 6   | 0s 0 2 20  | 22n58                               | 0 49 1 25   | 0s39 16s 7<br>0 39 16 7<br>0 39 16 6                               |  | 35 22 11   | 5 s 20 5 n 25<br>5 19 5 25<br>5 18 5 24                  |
| S 4<br>M 5<br>T 6<br>W 7<br>T 8                    | 22 48<br>22 42<br>22 35<br>22 28<br>22 20 | 20 31 2 21<br>18 2 3 16<br>14 45 4 2                              | 23 45 2<br>23 28 2<br>23 10 2   | 8 22 55 0 59<br>8 22 45 1 1<br>7 22 34 1 3                                    | 10 8 0 46<br>10 20 0 47<br>10 32 0 48<br>10 43 0 49<br>10 55 0 50                             | 8 33 1 17<br>8 35 1 17<br>8 38 1 17<br>8 40 1 17<br>8 42 1 17                           | 0 1 2 20<br>0 1 2 21<br>0 1 2 21<br>0 1 2 21<br>0 1 2 21<br>0 1 2 21 | 22 57 0 5<br>22 57 0 5              | 0 48 1 25<br>0 48 1 25<br>0 48 1 25                           | 0 38 16 6<br>0 38 16 5<br>0 38 16 5                                | 22 43 22 3<br>22 43 22 3<br>22 43 22 3<br>22 42 22 3<br>22 42 22 3                             | 34 22 9<br>33 22 8<br>33 22 7                            |  |
| F 9<br>S 10  | 22 12<br>22 4                             | 1 44 5 12   | 22 5 2  | 3 21 59 1 8   | 11 19 0 52  | 8 44 1 18<br>8 45 1 18  |  | 22 57 0 5                           | 0 46 1 24   | 0 37 16 4  | 22 41 22 3<br>22 40 22 3   | 32 22 5  | 5 13 5 23<br>5 13 5 22                                   |
| W14  | 21 15                                     | 7 58 4 46<br>12 33 4 10<br>16 38 3 19<br>19 54 2 15<br>22 1 1 1   | 21 15 1 5<br>20 47 1 5<br>20 18 1 4<br>19 48 1 4<br>19 17 1 3                       | 7 21 32 1 11<br>4 21 17 1 12<br>19 21 2 1 14<br>4 20 46 1 15<br>8 20 30 1 16  | 11 31 0 53<br>11 42 0 54<br>11 54 0 55<br>12 6 0 56<br>12 18 0 57<br>12 30 0 58<br>12 41 0 59 | 8 47 1 18<br>8 49 1 18<br>8 51 1 19<br>8 52 1 19<br>8 54 1 19<br>8 56 1 19<br>8 57 1 19 | 0 1 2 23<br>0 1 2 23<br>0 0 2 23<br>0 0 2 23<br>0n 0 2 24            | 22 56 0 5<br>22 56 0 5<br>22 56 0 5 | 0 46 1 24<br>0 45 1 24<br>0 45 1 24<br>0 44 1 24<br>0 44 1 24 | 0 37 16 3<br>0 37 16 3<br>0 36 16 3<br>0 36 16 2<br>0 36 16 2      | 22 40 22 1<br>22 40 22 1 | 31 22 3<br>31 22 2<br>30 22 1<br>30 22 0<br>30 21 59     | 5 9 5 21<br>5 8 5 21<br>5 7 5 21                         |
| S 18<br>M19<br>T 20<br>W21<br>T 22<br>F 23<br>S 24 | 20 29<br>20 16                            | 19 16 2 52<br>15 27 3 53<br>10 43 4 37<br>5 28 5 2<br>0 5 5 8     | 17 35 1 1<br>17 0 1<br>16 24 0 5<br>15 48 0 4<br>15 12 0 3                          | 6 19 37 1 20<br>7 19 18 1 21<br>77 18 59 1 22<br>77 18 39 1 23                | 13 28 1 2<br>13 40 1 3<br>13 52 1 3   | 9 0 1 20<br>9 1 1 20<br>9 2 1 20<br>9 4 1 21  | 0 1 2 25<br>0 2 2 25<br>0 2 2 25<br>0 3 2 25<br>0 3 2 26             | 22 55 0 5<br>22 55 0 5              | 0 42 1 24<br>0 42 1 24<br>0 41 1 24<br>0 40 1 24<br>0 40 1 24 | 0 35 16 1<br>0 35 16 1   | 22 36 22 2   | 29 21 57<br>28 21 56<br>28 21 55<br>27 21 54<br>27 21 53 | 5 4 5 20<br>5 3 5 20<br>5 2 5 20<br>5 1 5 19<br>5 0 5 19 |
| S 25<br>M26<br>T 27<br>W28<br>T 29<br>F 30<br>S 31 | 18 23                                     | 14 8 3 47<br>17 36 2 57<br>20 13 1 59<br>21 55 0 58<br>22 37 0s 5 | 14 0 0<br>13 26 0n<br>12 53 0 2<br>12 21 0 3<br>11 52 0 5<br>11 26 1 1<br>11s 2 1n2 | 5 17 15 1 26<br>00 16 52 1 27<br>66 16 29 1 27<br>3 16 6 1 28<br>0 15 42 1 28 | 14 38 1 6<br>14 49 1 7<br>15 1 1 7  | 9 7 1 22<br>9 8 1 22<br>9 9 1 22<br>9 10 1 22<br>9 10 1 22                              | 0 5 2 27<br>0 6 2 27<br>0 7 2 27<br>0 8 2 27<br>0 9 2 28             | 22 54 0 5<br>22 54 0 5              | 0 38 1 24<br>0 38 1 24<br>0 37 1 24<br>0 36 1 24<br>0 36 1 24 | 0 33 15 59<br>0 32 15 58<br>0 32 15 58<br>0 32 15 58<br>0 31 15 57 | 22 35 22 3<br>22 35 22 3<br>22 35 22 3<br>22 35 22 3<br>22 35 22 3                             | 26 21 50<br>25 21 50<br>25 21 49<br>25 21 48<br>24 21 47 | 4 56 5 18<br>4 54 5 18<br>4 53 5 18<br>4 52 5 18         |

 $\label{eq:Julian Day Number = 2401506.5, Delta T = 8.93 sec} \\ Ecliptic obliquity = 23°27'23, Nutation = 0°00'17, out-of-bounds declination in red Ayanamsha: Fagan/Bradley = 22°49'38, Lahiri = 21°56'38 \\$ 

FEBRUARY 1863 00:00 UT

| Day  | Sid.t    | 0                | D              | ğ              | φ               | ď             | 24             | ħ             | )ţ(             | ¥             | Р             | R               | Ω               | Ç     | ķ              | Day  |
|------|----------|------------------|----------------|----------------|-----------------|---------------|----------------|---------------|-----------------|---------------|---------------|-----------------|-----------------|-------|----------------|------|
| S 1  | 8 42 49  | 11≈41'11         | 9921           | 27°R32         | 24≈ 7           | 8 <b>8</b> 57 | 27 <b>Ω</b> 12 | 5°R16         | 16°R52          | <u>1</u> Υ47  | 9826          | 14°R44          | 13 🗷 8          | 29915 | <b>4</b> ₩48   | S 1  |
| M 2  | 8 46 46  | 12°42'02         | 21°15          | 27 <b>≈</b> 31 | 25°22           | 9°30          | 27°14          | 5 <u>Ω</u> 14 | 16 <b>I</b> I51 | 1°48          | 9°26          | 14×738          | 13° 5           | 2°22  | 4°51           | M 2  |
| T 3  | 8 50 42  | 13°42'51         | 3 <b>Ω</b> 17  | 27°20          | 26°37           | 10° 4         | 27°15          | 5°12          | 16°50           | 1°50          | 9°27          | 14°29           | 13° 2           | 2°29  | 4°55           | T 3  |
| W 4  | 8 54 39  | 14°43'39         | 15°28          | 26°57          | 27°52           | 10°37         | 27°17          | 5°10          | 16°49           | 1°51          | 9°27          | 14°19           | 12°59           | 2°35  | 4°59           | W 4  |
| T 5  | 8 58 36  | 15°44'26         | 27°50          | 26°24          | 29° 7           | 11°11         | 27°18          | 5° 8          | 16°48           | 1°53          | 9°27          | 14° 7           | 12°56           | 2°42  | 5° 3           | T 5  |
| F 6  | 9 2 32   | 16°45'12         | 10 <b>m</b> 23 | 25°41          | 0 <b>)</b> €22  | 11°45         | 27°19          | 5° 6          | 16°47           | 1°55          | 9°27          | 13°55           | 12°52           | 2°49  | 5° 7           | F 6  |
| S 7  | 9 6 29   | 17°45'56         | 23° 7          | 24°49          | 1°37            | 12°18         | 27°20          | 5° 3          | 16°46           | 1°57          | 9°28          | 13°44           | 12°49           | 2°55  | 5°10           | S 7  |
| S 8  | 9 10 25  | 18°46'39         | 6 <b>₾</b> 3   | 23°50          | 2°52            | 12°52         | 27°21          | 5° 1          | 16°45           | 1°58          | 9°28          | 13°35           | 12°46           | 3° 2  | 5°14           | S 8  |
| M 9  | 9 14 22  | 19°47'22         | 19°10          | 22°45          | 4° 7            | 13°26         | 27°21          | 4°59          | 16°44           | 2° 0          | 9°28          | 13°28           | 12°43           | 3° 9  | 5°18           | M 9  |
| T 10 | 9 18 18  | 20°48'03         | 2MJ31          | 21°37          | 5°22            | 14° 0         | 27°22          | 4°56          | 16°43           | 2° 2          | 9°29          | 13°25           | 12°40           | 3°15  | 5°22           | T 10 |
| W11  | 9 22 15  | 21°48'43         | 16° 5          | 20°27          | 6°37            | 14°34         | 27°R22         | 4°53          | 16°43           | 2° 4          | 9°29          | 13°23           | 12°37           | 3°22  | 5°26           | W11  |
| T 12 | 9 26 11  | 22°49'22         | 29°55          | 19°17          | 7°52            | 15° 9         | 27°22          | 4°50          | 16°42           | 2° 6          | 9°30          | 13°D23          | 12°33           | 3°29  | 5°30           | T 12 |
| F 13 | 9 30 8   | 23°50'00         | 14 <b>×7</b> 1 | 18° 9          | 9° 7            | 15°43         | 27°21          | 4°47          | 16°42           | 2° 7          | 9°30          | 13°R23          | 12°30           | 3°35  | 5°34           | F 13 |
| S 14 | 9 34 5   | 24°50'37         | 28°22          | 17° 4          | 10°22           | 16°17         | 27°21          | 4°45          | 16°41           | 2° 9          | 9°30          | 13°23           | 12°27           | 3°42  | 5°38           | S 14 |
| S 15 | 9 38 1   | 25°51'13         | 12 <b>る</b> 56 | 16° 4          | 11°37           | 16°52         | 27°20          | 4°41          | 16°41           | 2°11          | 9°31          | 13°20           | 12°24           | 3°48  | 5°42           | S 15 |
| M16  | 9 41 58  | 26°51'47         | 27°40          | 15°10          | 12°52           | 17°26         | 27°20          | 4°38          | 16°40           | 2°13          | 9°31          | 13°14           | 12°21           | 3°55  | 5°46           | M16  |
| T 17 | 9 45 54  | 27°52'21         | 12≈26          | 14°23          | 14° 6           | 18° 1         | 27°19          | 4°35          | 16°40           | 2°15          | 9°32          | 13° 5           | 12°17           | 4° 2  | 5°50           | T 17 |
| W18  | 9 49 51  | 28°52'52         | 27° 7          | 13°42          | 15°21           | 18°36         | 27°17          | 4°32          | 16°39           | 2°17          | 9°32          | 12°54           | 12°14           | 4° 8  | 5°53           | W18  |
| T 19 | 9 53 47  | 29°53'22         | 11 <b>米</b> 35 | 13°10          | 16°36           | 19°10         | 27°16          | 4°28          | 16°39           | 2°19          | 9°33          | 12°42           | 12°11           | 4°15  | 5°57           | T 19 |
| F 20 | 9 57 44  | 0 <b>米</b> 53'50 | 25°43          | 12°45          | 17°51           | 19°45         | 27°14          | 4°25          | 16°39           | 2°21          | 9°34          | 12°31           | 12° 8           | 4°22  | 6° 1           | F 20 |
| S 21 | 10 1 40  | 1°54'16          | 9 <b>Ƴ</b> 26  | 12°27          | 19° 6           | 20°20         | 27°13          | 4°21          | 16°39           | 2°23          | 9°34          | 12°20           | 12° 5           | 4°28  | 6° 5           | S 21 |
| S 22 | 10 5 37  | 2°54'41          | 22°42          | 12°17          | 20°20           | 20°55         | 27°11          | 4°18          | 16°39           | 2°25          | 9°35          | 12°12           | 12° 2           | 4°35  | 6° 9           | S 22 |
| M23  | 10 9 33  | 3°55'04          | 5 <b>8</b> 33  | 12°D13         | 21°35           | 21°30         | 27° 9          | 4°14          | 16°39           | 2°27          | 9°35          | 12° 7           | 11°58           | 4°42  | 6°13           | M23  |
| T 24 | 10 13 30 | 4°55'25          | 18° 1          | 12°17          | 22°50           | 22° 5         | 27° 6          | 4°10          | 16°D39          | 2°29          | 9°36          | 12° 4           | 11°55           | 4°48  | 6°17           | T 24 |
| W25  | 10 17 27 | 5°55'44          | 0 <b>Ⅱ</b> 11  | 12°27          | 24° 4           | 22°40         | 27° 4          | 4° 7          | 16°39           | 2°31          | 9°37          | 12° 3           | 11°52           | 4°55  | 6°21           | W25  |
| T 26 | 10 21 23 | 6°56'01          | 12° 7          | 12°42          | 25°19           | 23°15         | 27° 1          | 4° 3          | 16°39           | 2°33          | 9°37          | 12° 3           | 11°49           | 5° 2  | 6°25           | T 26 |
| F 27 | 10 25 20 | 7°56'16          | 23°57          | 13° 4          | 26°33           | 23°51         | 26°58          | 3°59          | 16°39           | 2°35          | 9°38          | 12° 3           | 11°46           | 5° 8  | 6°29           | F 27 |
| S 28 | 10 29 16 | 8 <b>)</b> 56'28 | 59544          | 13≈30          | 27 <b>)</b> (48 | 24826         | 26 <b>₽</b> 55 | 3 <b>₾</b> 55 | 16 <b>Ⅲ</b> 39  | 2 <b>Υ</b> 38 | 9 <b>8</b> 39 | 12 <b>×</b> 7 1 | 11 <b>×</b> 143 | 59915 | 6 <b>)</b> €33 | S 28 |

| Day  | 0      | D         | ζ        | 5    | φ       |            | ď       | 2     | 4    | ħ    |      | );    | ξ(   | <del>,</del> | (     | Р        | r         | v      | Ç     | Š       | 5    |
|------|--------|-----------|----------|------|---------|------------|---------|-------|------|------|------|-------|------|--------------|-------|----------|-----------|--------|-------|---------|------|
|      | decl   | decl lat  | decl     | lat  | decl la | at c       | ecl lat | decl  | lat  | decl | lat  | decl  | lat  | decl         | lat   | decl lat | decl      | decl   | decl  | decl    | lat  |
| S 1  | 17 s18 | 21n 0 2s  | 8 10 s43 | 1n44 | 14 s54  | 1 s 29 1 5 | n35 1n  | 9s11  | 1n23 | 0n10 | 2n28 | 22n53 | 0n 5 | 0s34         | 1 s24 | 0s30 15s | 57 22 s35 | 22 s24 | 21n45 | 4 s 5 0 | 5n17 |
| M 2  | 17 1   | 18 46 3   | 2 10 27  | 2 1  | 14 29   | 1 29 15    | 46 1 1  | 9 12  | 1 23 | 0 11 | 2 28 | 22 53 | 0 5  | 0 34         | 1 24  | 0 30 15  |           |        |       | 4 49    | 5 17 |
| T 3  | 16 43  |           | 9 10 15  | -    | 14 3    |            | 57 1 1  |       | 1 23 | 0 12 | 2 29 |       |      | 0 33         | 1 24  |          | 56 22 33  |        |       | 4 47    | 5 17 |
| W 4  | 16 26  |           | 26 10 7  |      | 13 37   | 1 30 16    | 8 1 1   |       | 1 24 | 0 13 |      | 22 53 |      | 0 32         | 1 24  | 0 29 15  |           |        |       | 4 46    | 5 17 |
| T 5  | 16 8   | 7 40 4 5  |          |      | 13 11   |            | 19 1 1  |       | 1 24 | 0 15 | 2 29 |       |      | 0 32         | 1 24  | 0 29 15  |           |        |       | 4 45    | 5 17 |
| F 6  | 15 50  |           | 3 10 6   |      | 12 45   |            | 30 1 1  | -     | 1 24 | 0 16 | 2 29 |       |      | 0 31         | 1 23  | 0 28 15  |           |        |       | 4 44    | 5 17 |
| S 7  | 15 31  | 1s51 4 5  | 9 10 12  | 3 15 | 12 18   | 1 30 16    | 41 1 1  | 9 13  | 1 24 | 0 17 | 2 30 | 22 53 | 0 5  | 0 30         | 1 23  | 0 28 15  | 54 22 28  | 22 21  | 21 39 | 4 43    | 5 16 |
| S 8  | 15 12  | 6 42 4 4  | 1 10 22  | 3 25 | 11 51   | 1 29 16    | 52 1 1  | 9 13  | 1 25 | 0 18 | 2 30 | 22 53 | 0 5  | 0 29         | 1 23  | 0 28 15  | 54 22 27  | 22 21  | 21 38 | 4 41    | 5 16 |
| M 9  | 14 53  | 11 19 4   | 7 10 35  | 3 33 | 11 23   | 1 29 17    | 3 1 1   | 9 13  | 1 25 | 0 19 | 2 30 | 22 53 | 0 5  | 0 29         | 1 23  | 0 27 15  | 54 22 26  | 22 20  | 21 37 | 4 40    | 5 16 |
| T 10 | 14 34  | 15 28 3 1 | 9 10 51  | 3 39 | 10 56   | 1 29 17    | 14 1 1  | 9 13  | 1 25 | 0 20 | 2 30 | 22 53 | 0 5  | 0 28         | 1 23  | 0 27 15  | 53 22 26  | 22 20  | 21 36 | 4 39    | 5 16 |
| W11  | 14 15  | 18 54 2 2 | 20 11 10 | 3 42 | 10 28   | 1 29 17    | 24 1 1  | 9 13  | 1 25 | 0 22 | 2 31 | 22 53 | 0 5  | 0 27         | 1 23  | 0 26 15  | 53 22 25  | 22 19  | 21 35 | 4 37    | 5 16 |
| T 12 | 13 55  | 21 18 1 1 | 1 11 31  | 3 43 | 9 59    | 1 28 17    | 35 1 1  | 9 13  | 1 26 | 0 23 | 2 31 | 22 52 | 0 5  | 0 26         | 1 23  | 0 26 15  | 53 22 25  | 22 19  | 21 34 | 4 36    | 5 16 |
| F 13 | 13 35  | 22 27 On  | 3 11 53  | 3 42 | 9 31    | 1 28 17    | 45 1 1  | 9 12  | 1 26 | 0 24 | 2 31 |       | 0 5  | 0 26         | 1 23  | 0 25 15  |           |        |       | 4 35    | 5 16 |
| S 14 | 13 15  | 22 8 1 1  | 9 12 16  | 3 38 | 9 2     | 1 27 17    | 56 1 1  | 9 12  | 1 26 | 0 26 | 2 31 | 22 52 | 0 5  | 0 25         | 1 23  | 0 25 15  | 52 22 25  | 22 18  | 21 32 | 4 33    | 5 16 |
| S 15 | 12 55  | 20 20 2 3 | 0 12 39  | 3 32 | 8 33    | 1 27 18    | 6 1 1   | 9 11  | 1 26 | 0 27 | 2 32 | 22 52 | 0 5  | 0 24         | 1 23  | 0 24 15  | 52 22 25  | 22 18  | 21 31 | 4 32    | 5 15 |
| M16  | 12 34  | 17 11 3 3 | 2 13 2   | 3 25 | 8 4     | 1 26 18    | 16 1 1  | 9 11  | 1 27 | 0 29 | 2 32 | 22 52 | 0 5  | 0 23         | 1 23  | 0 24 15  | 51 22 24  | 22 17  | 21 30 | 4 31    | 5 15 |
| T 17 | 12 13  | 12 55 4 2 | 20 13 24 | 3 16 | 7 34    | 1 25 18    | 26 1 1  | 9 10  | 1 27 | 0 30 | 2 32 | 22 52 | 0 5  | 0 23         | 1 23  | 0 23 15  | 51 22 23  | 22 17  | 21 29 | 4 29    | 5 15 |
| W18  | 11 52  | 7 56 4 5  | 0 13 45  | 3 6  | 7 4     | 1 24 18    | 36 1 1  | 9 10  | 1 27 | 0 32 | 2 32 | 22 52 | 0 5  | 0 22         | 1 23  | 0 23 15  | 51 22 22  | 22 17  | 21 28 | 4 28    | 5 15 |
| T 19 | 11 31  |           | 1 14 5   |      |         |            | 46 1 1  | 7 9 9 | -    | 0 33 |      | 22 52 | 0 5  | 0 21         | 1 23  | 0 23 15  |           |        |       | 4 27    | 5 15 |
| F 20 | 11 10  |           | 3 14 23  |      |         |            | 56 1 1  | 9 8   |      | 0 35 | 2 33 |       |      | 0 20         | 1 23  | 0 22 15  |           |        |       | 4 25    | 5 15 |
| S 21 | 10 48  | 7 51 4 2  | 9 14 40  | 2 31 | 5 34    | 1 21 19    | 6 1 1   | 9 7   | 1 28 | 0 36 | 2 33 | 22 52 | 0 5  | 0 19         | 1 23  | 0 22 15  | 50 22 17  | 22 15  | 21 25 | 4 24    | 5 15 |
| S 22 | 10 27  | 12 24 3 5 | 0 14 55  | 2 18 | 5 4     | 1 20 19    | 15 1 1  | 9 7   | 1 28 | 0 38 | 2 33 | 22 52 | 0 5  | 0 19         | 1 23  | 0 21 15  | 49 22 16  | 22 15  | 21 24 | 4 23    | 5 15 |
| M23  | 10 5   | 16 13 3   | 1 15 9   | 2 5  | 4 33    | 1 19 19    | 25 1 1  | 9 6   | 1 28 | 0 40 | 2 33 | 22 52 | 0 5  | 0 18         | 1 23  | 0 21 15  | 49 22 16  | 22 14  | 21 23 | 4 21    | 5 15 |
| T 24 | 9 43   | 19 11 2   | 4 15 20  | 1 52 | 4 3     | 1 18 19    | 34 1 1  | 9 5   | 1 28 | 0 41 | 2 33 | 22 52 | 0 5  | 0 17         | 1 23  | 0 20 15  | 49 22 15  | 22 14  | 21 22 | 4 20    | 5 15 |
| W25  | 9 21   |           | 3 15 30  | 1 39 | 3 32    | ,          | 44 1 1  |       | 1 29 | 0 43 | 2 34 | -     | 0 5  | 0 16         | 1 23  |          | 48 22 15  |        |       | 4 19    | 5 15 |
| T 26 | 8 58   | 22 15 0s  | 0 15 39  | 1 25 | 3 1     | -          | 53 1 2  |       |      | 0 45 | 2 34 | -     | 0 5  | 0 15         | 1 23  | 0 19 15  |           |        |       | 4 17    | 5 15 |
| F 27 | 8 36   | 22 17 1   | 3 15 45  | 1 12 | 2 30    | 1 14 20    | 2 1 2   | 9 1   | 1 29 | 0 46 | 2 34 | 22 52 | 0 5  | 0 14         | 1 23  | 0 19 15  | 48 22 15  | 22 13  | 21 19 | 4 16    | 5 15 |
| S 28 | 8 s13  | 21n18 2s  | 2 15 s50 | 1n 0 | 1 s59   | 1 s13 20   | n11 1n2 | 9s 0  | 1n29 | 0n48 | 2n34 | 22n52 | 0n 5 | 0s14         | 1 s23 | 0s18 15s | 48 22 s15 | 22 s12 | 21n18 | 4s14    | 5n15 |

Julian Day Number = 2401537.5, Delta T = 8.92 sec Ecliptic obliquity =  $23^{\circ}27'23$ , Nutation =  $0^{\circ}00'18$ , out-of-bounds declination in red Ayanamsha: Fagan/Bradley =  $22^{\circ}49'42$ , Lahiri =  $21^{\circ}56'43$ 

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|      | JII 1003 | ,                |                 |                |               |                |                |               |                |               |               |                 |                 |       | 00.0           | 0 0. |
|------|----------|------------------|-----------------|----------------|---------------|----------------|----------------|---------------|----------------|---------------|---------------|-----------------|-----------------|-------|----------------|------|
| Day  | Sid.t    | 0                | D               | ğ              | φ             | ď              | 4              | ħ             | )∤(            | ¥             | Р             | n               | ß               | Ç     | ę,             | Day  |
| S 1  | 10 33 13 | 9 <b>)</b> 56'39 | 17934           | 14≈ 2          | 29₩ 2         | 25 <b>8</b> 1  | 26°R52         | 3°R51         | 16 <b>Ⅱ</b> 39 | 2 <b>Υ</b> 40 | 9 <b>8</b> 40 | 11°R57          | 11 <b>×</b> 39  | 59522 | 6 <b>)</b> €37 | S 1  |
| M 2  | 10 37 9  | 10°56'48         | 29°32           | 14°38          | o <b>Υ</b> 17 | 25°37          | 26 <b>₽</b> 49 | 3 <b>≏</b> 47 | 16°40          | 2°42          | 9°40          | 11 <b>×7</b> 50 | 11°36           | 5°28  | 6°41           | M 2  |
| T 3  | 10 41 6  | 11°56'55         | 11 <b>Ω</b> 41  | 15°18          | 1°31          | 26°12          | 26°45          | 3°43          | 16°40          | 2°44          | 9°41          | 11°41           | 11°33           | 5°35  | 6°45           | T 3  |
| W 4  | 10 45 2  | 12°57'00         | 24° 4           | 16° 2          | 2°46          | 26°48          | 26°41          | 3°38          | 16°41          | 2°46          | 9°42          | 11°29           | 11°30           | 5°42  | 6°49           | W 4  |
| T 5  | 10 48 59 | 13°57'03         | 6 <b>m</b> 41   | 16°50          | 4° 0          | 27°23          | 26°37          | 3°34          | 16°41          | 2°48          | 9°43          | 11°15           | 11°27           | 5°48  | 6°53           | T 5  |
| F 6  | 10 52 56 | 14°57'04         | 19°33           | 17°41          | 5°14          | 27°59          | 26°33          | 3°30          | 16°42          | 2°50          | 9°44          | 11° 2           | 11°23           | 5°55  | 6°57           | F 6  |
| S 7  | 10 56 52 | 15°57'03         | 2 <b>॒</b> 38   | 18°35          | 6°29          | 28°34          | 26°29          | 3°25          | 16°42          | 2°53          | 9°45          | 10°49           | 11°20           | 6° 2  | 7° 1           | S 7  |
| S 8  | 11 0 49  | 16°57'00         | 15°56           | 19°32          | 7°43          | 29°10          | 26°25          | 3°21          | 16°43          | 2°55          | 9°45          | 10°38           | 11°17           | 6° 8  | 7° 5           | S 8  |
| M 9  | 11 4 45  | 17°56'55         | 29°24           | 20°32          | 8°57          | 29°45          | 26°20          | 3°17          | 16°43          | 2°57          | 9°46          | 10°30           | 11°14           | 6°15  | 7° 9           | M 9  |
| T 10 | 11 8 42  | 18°56'49         | 13 <b>m</b> 1   | 21°35          | 10°11         | 0 <b>Ⅱ</b> 21  | 26°16          | 3°12          | 16°44          | 2°59          | 9°47          | 10°25           | 11°11           | 6°22  | 7°13           | T 10 |
| W11  | 11 12 38 | 19°56'41         | 26°47           | 22°40          | 11°25         | 0°57           | 26°11          | 3° 8          | 16°45          | 3° 1          | 9°48          | 10°23           | 11° 8           | 6°28  | 7°16           | W11  |
| T 12 | 11 16 35 | 20°56'32         | 10 <b>∡</b> 741 | 23°47          | 12°40         | 1°33           | 26° 6          | 3° 3          | 16°46          | 3° 4          | 9°49          | 10°D22          | 11° 4           | 6°35  | 7°20           | T 12 |
| F 13 | 11 20 31 | 21°56'21         | 2 <u>4</u> °42  | 24°57          | 13°54         | 2° 8           | 26° 1          | 2°59          | 16°47          | 3° 6          | 9°50          | 10°R22          | 11° 1           | 6°42  | 7°24           | F 13 |
| S 14 | 11 24 28 | 22°56'08         | 8 <b>궁</b> 51   | 26° 9          | 15° 8         | 2°44           | 25°55          | 2°54          | 16°48          | 3° 8          | 9°51          | 10°22           | 10°58           | 6°48  | 7°28           | S 14 |
| S 15 | 11 28 25 | 23°55'54         | 23° 6           | 27°22          | 16°22         | 3°20           | 25°50          | 2°49          | 16°49          | 3°10          | 9°52          | 10°19           | 10°55           | 6°55  | 7°32           | S 15 |
| M16  | 11 32 21 | 24°55'38         | 7≈25            | 28°38          | 17°36         | 3°56           | 25°44          | 2°45          | 16°50          | 3°13          | 9°53          | 10°14           | 10°52           | 7° 2  | 7°36           | M16  |
| T 17 | 11 36 18 | 25°55'20         | 21°44           | 29°55          | 18°50         | 4°32           | 25°38          | 2°40          | 16°51          | 3°15          | 9°54          | 10° 5           | 10°49           | 7° 8  | 7°40           | T 17 |
| W18  | 11 40 14 | 26°55'00         | 5 <b>¥</b> 59   | 1 <b>)</b> 14  | 20° 3         | 5° 8           | 25°33          | 2°36          | 16°52          | 3°17          | 9°55          | 9°55            | 10°45           | 7°15  | 7°43           | W18  |
| T 19 | 11 44 11 | 27°54'38         | 20° 3           | 2°35           | 21°17         | 5°44           | 25°27          | 2°31          | 16°53          | 3°19          | 9°56          | 9°43            | 10°42           | 7°22  | 7°47           | T 19 |
| F 20 | 11 48 7  | 28°54'14         | 3 <b>Y</b> 53   | 3°57           | 22°31         | 6°20           | 25°20          | 2°26          | 16°55          | 3°22          | 9°57          | 9°32            | 10°39           | 7°28  | 7°51           | F 20 |
| S 21 | 11 52 4  | 29°53'48         | 17°24           | 5°21           | 23°45         | 6°56           | 25°14          | 2°21          | 16°56          | 3°24          | 9°58          | 9°22            | 10°36           | 7°35  | 7°55           | S 21 |
| S 22 | 11 56 0  | 0 <b>Υ</b> 53'21 | 0 <b>8</b> 33   | 6°46           | 24°59         | 7°32           | 25° 8          | 2°17          | 16°57          | 3°26          | 9°59          | 9°13            | 10°33           | 7°42  | 7°58           | S 22 |
| M23  | 11 59 57 | 1°52'51          | 13°20           | 8°13           | 26°12         | 8° 8           | 25° 1          | 2°12          | 16°59          | 3°28          | 10° 0         | 9° 8            | 10°29           | 7°48  | 8° 2           | M23  |
| T 24 | 12 3 54  | 2°52'18          | 25°48           | 9°42           | 27°26         | 8°44           | 24°55          | 2° 7          | 17° 0          | 3°31          | 10° 2         | 9° 5            | 10°26           | 7°55  | 8° 6           | T 24 |
| W25  | 12 7 50  | 3°51'44          | 7 <b>II</b> 59  | 11°12          | 28°40         | 9°20           | 24°48          | 2° 3          | 17° 2          | 3°33          | 10° 3         | 9°D 4           | 10°23           | 8° 1  | 8°10           | W25  |
| T 26 | 12 11 47 | 4°51'07          | 19°57           | 12°43          | 29°53         | 9°57           | 24°41          | 1°58          | 17° 3          | 3°35          | 10° 4         | 9° 4            | 10°20           | 8° 8  | 8°13           | T 26 |
| F 27 | 12 15 43 | 5°50'28          | 19548           | 14°16          | 18 7          | 10°33          | 24°34          | 1°53          | 17° 5          | 3°38          | 10° 5         | 9°R 5           | 10°17           | 8°15  | 8°17           | F 27 |
| S 28 | 12 19 40 | 6°49'47          | 13°37           | 15°50          | 2°20          | 11° 9          | 24°28          | 1°49          | 17° 6          | 3°40          | 10° 6         | 9° 5            | 10°14           | 8°21  | 8°20           | S 28 |
| S 29 | 12 23 36 | 7°49'03          | 25°29           | 17°25          | 3°34          | 11°45          | 24°21          | 1°44          | 17° 8          | 3°42          | 10° 7         | 9° 3            | 10°10           | 8°28  | 8°24           | S 29 |
| M30  | 12 27 33 | 8°48'17          | $7\Omega$ 30    | 19° 2          | 4°47          | 12°22          | 24°13          | 1°39          | 17°10          | 3°44          | 10° 8         | 8°59            | 10° 7           | 8°35  | 8°28           | M30  |
| T 31 | 12 31 29 | 9 <b>Ƴ</b> 47'29 | 19 <b>Ω</b> 43  | 20 <b>)</b> 41 | 6 <b>8</b> 0  | 12 <b>Ⅱ</b> 58 | 24 <b>♀</b> 6  | 1 <b>≏</b> 35 | 17 <b>Ⅱ</b> 12 | 3 <b>Ƴ</b> 47 | 10810         | 8 <b>₹</b> 53   | 10 <b>×</b> 7 4 | 89541 | 8 <b>)</b> (31 | T 31 |

| Day  | 0  | D   | ğ   | φ   | 3  | 4   | ħ   | )∤(   | ¥   | Р  | w v  | Ç  | ķ   |
|--|--|---|---|---|--|---|---|---|---|--|--|--|---|
|  | decl   | decl lat  | decl lat  | decl lat decl   | lat  | decl lat  | decl lat  | decl lat  | decl lat  | decl lat   | decl decl  | decl   | decl lat  |
| S 1<br>M 2<br>T 3<br>W 4                           | 7 s51<br>7 28<br>7 5<br>6 42                       | 16 37 3 43<br>13 7 4 21                                       | 15 s53 0n47<br>15 54 0 35<br>15 54 0 23<br>15 52 0 11             | 1 s 2 8 1 s 1 1 2 0 n 2 0 0 5 7 1 1 0 2 0 2 9 0 2 6 1 8 2 0 3 8 0 n 5 1 6 2 0 4 6   | 1n20<br>1 21<br>1 21<br>1 21                         | 8 s58 1n29<br>8 57 1 30<br>8 56 1 30<br>8 54 1 30                                       | 0 52 2 34<br>0 53 2 35  | 22 52 0 5   | 0s13 1s23<br>0 12 1 23<br>0 11 1 23<br>0 10 1 23                                    | 0 17 15 47<br>0 17 15 47   | 22 s14 22 s12<br>22 13 22 12<br>22 12 22 11<br>22 10 22 11                                     | 21 15<br>21 14                                       | 4s13 5n15<br>4 11 5 14<br>4 10 5 14<br>4 9 5 14   |
| T 5<br>F 6<br>S 7                                  | 6 19<br>5 56<br>5 33                               | 0s24 4 57   | 15 48 0 0   | 0 36 1 5 20 54<br>1 7 1 3 21 3<br>1 39 1 1 21 11  | 1 21<br>1 21   | 8 52 1 30<br>8 51 1 30<br>8 49 1 31   | 0 57 2 35<br>0 59 2 35<br>1 1 2 35                            | 22 52 0 5<br>22 53 0 5  | 0 9 1 23<br>0 8 1 23  | 0 16 15 46<br>0 15 15 46<br>0 14 15 45   | 22 9 22 10<br>22 7 22 10   | 21 12  | 4 7 5 14<br>4 6 5 14<br>4 4 5 14  |
| S 8<br>M 9<br>T 10<br>W11<br>T 12<br>F 13<br>S 14  | 3 36<br>3 12                                       | 14 22 3 18<br>17 58 2 19<br>20 36 1 11<br>22 2 0n 2           | 14 54 0 59<br>14 39 1 7<br>14 24 1 15                             | 2 10 0 59 21 19<br>2 41 0 57 21 27<br>3 12 0 55 21 35<br>3 43 0 53 21 42<br>4 13 0 51 21 50<br>4 44 0 49 21 57<br>5 15 0 46 22 5  | 1 22   | 8 47 1 31<br>8 46 1 31<br>8 44 1 31<br>8 42 1 31<br>8 40 1 31<br>8 38 1 32<br>8 36 1 32 | 1 6 2 36<br>1 8 2 36<br>1 10 2 36<br>1 12 2 36                | 22 53 0 5<br>22 53 0 5<br>22 53 0 5<br>22 53 0 5              | 0 6 1 23  | 0 14 15 45<br>0 13 15 45<br>0 13 15 45<br>0 12 15 44<br>0 12 15 44<br>0 11 15 44 | 22 2 22 8<br>22 2 22 8<br>22 1 22 8<br>22 1 22 7<br>22 1 22 7                                  | 21 9<br>21 8<br>21 7<br>21 6<br>21 4<br>21 3<br>21 2 | 4 3 5 14<br>4 1 5 14<br>4 0 5 14<br>3 59 5 14<br>3 57 5 14<br>3 56 5 14<br>3 54 5 14    |
| S 15<br>M16<br>T 17<br>W18<br>T 19<br>F 20<br>S 21 | 2 25<br>2 1<br>1 37<br>1 14<br>0 50<br>0 26<br>0 2 | 14 20 4 14<br>9 45 4 46<br>4 40 5 1<br>0n37 4 57<br>5 45 4 35 | 13 28 1 36<br>13 6 1 42<br>12 44 1 48<br>12 20 1 54<br>11 54 1 59 | 5 46 0 44 22 12<br>6 16 0 42 22 19<br>6 46 0 39 22 26<br>7 16 0 37 22 32<br>7 46 0 35 22 39<br>8 16 0 32 22 45<br>8 46 0 30 22 52 | 1 23<br>1 23<br>1 23<br>1 24<br>1 24<br>1 24<br>1 24 | 8 34 1 32<br>8 31 1 32<br>8 29 1 32<br>8 27 1 32<br>8 25 1 32<br>8 22 1 33<br>8 20 1 33 | 1 18 2 36<br>1 20 2 36<br>1 21 2 36<br>1 23 2 36              | 22 54 0 5<br>22 54 0 5<br>22 54 0 5<br>22 54 0 5<br>22 54 0 5 | 0 0 1 23<br>0n 1 1 23<br>0 1 1 23<br>0 2 1 23<br>0 3 1 23<br>0 4 1 23<br>0 5 1 23   | 0 9 15 43<br>0 8 15 42<br>0 8 15 42  | 22 0 22 5<br>21 59 22 5<br>21 57 22 4<br>21 55 22 4<br>21 54 22 4                              | 21 0   | 3 53 5 14<br>3 51 5 15<br>3 50 5 15<br>3 49 5 15<br>3 47 5 15<br>3 46 5 15<br>3 44 5 15 |
| S 22<br>M23<br>T 24<br>W25<br>T 26<br>F 27<br>S 28 | 0 45<br>1 9<br>1 32<br>1 56<br>2 19                | 17 58 2 13<br>20 21 1 10<br>21 45 0 6<br>22 7 0s58            | 10 31 2 11<br>10 0 2 14<br>9 29 2 16<br>8 56 2 19<br>8 21 2 20    | 10 42 0 19 23 15<br>11 11 0 17 23 21<br>11 39 0 14 23 26  | 1 24   | 8 18 1 33<br>8 15 1 33<br>8 13 1 33<br>8 10 1 33<br>8 8 1 33<br>8 5 1 33<br>8 2 1 33    | 1 31 2 37<br>1 33 2 37<br>1 35 2 37<br>1 37 2 37<br>1 39 2 37 | 22 54 0 5<br>22 54 0 5<br>22 55 0 5<br>22 55 0 5              | 0 6 1 23<br>0 7 1 23<br>0 8 1 23<br>0 9 1 23<br>0 10 1 23<br>0 10 1 23<br>0 11 1 23 | 0 6 15 41<br>0 5 15 41<br>0 5 15 41<br>0 4 15 41<br>0 4 15 41                    | 21 51 22 3<br>21 50 22 2<br>21 50 22 2<br>21 50 22 1<br>21 50 22 1<br>21 50 22 0<br>21 50 22 0 | 20 52<br>20 51<br>20 50<br>20 48                     | 3 43 5 15<br>3 41 5 15<br>3 40 5 15<br>3 39 5 15<br>3 37 5 15<br>3 36 5 15<br>3 34 5 15 |
| S 29<br>M30<br>T 31                                | 3 6<br>3 30<br>3n53                                |   | 6 32 2 23   | 13 2 0 6 23 41  | 1 25<br>1 25<br>1n25                                 | 8 0 1 33<br>7 57 1 34<br>7 s54 1 n 34   |   | 22 55 0 5<br>22 55 0 5<br>22n56 0n 5                          | -   | 0 2 15 40  | 21 49 21 59<br>21 49 21 59<br>21 s48 21 s59  | 20 44  | 3 33 5 15<br>3 31 5 15<br>3 s30 5n16  |

Julian Day Number = 2401565.5, Delta T = 8.91 sec Ecliptic obliquity =  $23^{\circ}27'23$ , Nutation =  $0^{\circ}00'18$ , out-of-bounds declination in red Ayanamsha: Fagan/Bradley =  $22^{\circ}49'46$ , Lahiri =  $21^{\circ}56'46$ 

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|      |          | •                 |                 |                |                 |                 |                       |                |                |               |       |                |                |        | ••••          |      |
|------|----------|-------------------|-----------------|----------------|-----------------|-----------------|-----------------------|----------------|----------------|---------------|-------|----------------|----------------|--------|---------------|------|
| Day  | Sid.t    | 0                 | D               | ğ              | ρ               | ♂               | 4                     | ħ              | )∤(            | <del>¥</del>  | В     | r              | v              | Ç      | Ŗ             | Day  |
| W 1  | 12 35 26 | 10 <b>Y</b> 46'38 | 2 Mp 13         | 22 <b>)</b> 21 | 7 <b>8</b> 14   | 13 <b>II</b> 34 | 23°R59                | 1°R30          | 17 <b>I</b> I3 | <b>3</b> Υ49  | 10811 | 8°R44          | 10 <b>×</b> 1  | 89548  | 8 <b>∺</b> 35 | W 1  |
| T 2  | 12 39 22 | 11°45'46          | 15° 1           | 24° 2          | 8°27            | 14°11           | 23 <b>≏</b> 52        | 1 <b>≏</b> 25  | 17°15          | 3°51          | 10°12 | 8 <b>∡</b> ³35 | 9°58           | 8°55   | 8°38          | T 2  |
| F 3  | 12 43 19 | 12°44'51          | 28° 8           | 25°44          | 9°40            | 14°47           | 23°44                 | 1°21           | 17°17          | 3°53          | 10°13 | 8°25           | 9°54           | 9° 1   | 8°41          | F 3  |
| S 4  | 12 47 16 | 13°43'54          | 11 <b>≏</b> 33  | 27°29          | 10°53           | 15°23           | 23°37                 | 1°16           | 17°19          | 3°56          | 10°14 | 8°15           | 9°51           | 9° 8   | 8°45          | S 4  |
| S 5  | 12 51 12 | 14°42'54          | 25°14           | 29°14          | 12° 6           | 16° 0           | 23°29                 | 1°12           | 17°21          | 3°58          | 10°16 | 8° 8           | 9°48           | 9°15   | 8°48          | S 5  |
| M 6  | 12 55 9  | 15°41'53          | 9 <b>™</b> 8    | 1 <b>Υ</b> 1   | 13°19           | 16°36           | 23°22                 | 1° 7           | 17°23          | 4° 0          | 10°17 | 8° 2           | 9°45           | 9°21   | 8°52          | M 6  |
| T 7  | 12 59 5  | 16°40'50          | 23°11           | 2°50           | 14°32           | 17°13           | 23°14                 | 1° 3           | 17°25          | 4° 2          | 10°18 | 7°59           | 9°42           | 9°28   | 8°55          | T 7  |
| W 8  | 13 3 2   | 17°39'46          | 7 <b>.</b> ₹19  | 4°40           | 15°45           | 17°49           | 23° 7                 | 0°58           | 17°27          | 4° 5          | 10°19 | 7°D58          | 9°39           | 9°35   | 8°58          | W 8  |
| T 9  | 13 6 58  | 18°38'39          | 21°30           | 6°31           | 16°58           | 18°25           | 22°59                 | 0°54           | 17°30          | 4° 7          | 10°21 | 7°59           | 9°35           | 9°41   | 9° 1          | T 9  |
| F 10 | 13 10 55 | 19°37'31          | 5 <b>⋜</b> 41   | 8°24           | 18°11           | 19° 2           | 22°51                 | 0°50           | 17°32          | 4° 9          | 10°22 | 8° 0           | 9°32           | 9°48   | 9° 5          | F 10 |
| S 11 | 13 14 51 | 20°36'21          | 19°51           | 10°18          | 19°24           | 19°38           | 22°44                 | 0°45           | 17°34          | 4°11          | 10°23 | 8°R 0          | 9°29           | 9°55   | 9° 8          | S 11 |
| S 12 | 13 18 48 | 21°35'10          | 3≈58            | 12°14          | 20°36           | 20°15           | 22°36                 | 0°41           | 17°36          | 4°13          | 10°25 | 8° 0           | 9°26           | 10° 1  | 9°11          | S 12 |
| M13  | 13 22 45 | 22°33'56          | 18° 0           | 14°12          | 21°49           | 20°51           | 22°28                 | 0°37           | 17°39          | 4°16          | 10°26 | 7°57           | 9°23           | 10° 8  | 9°14          | M13  |
| T 14 | 13 26 41 | 23°32'41          | 1 <b>∺</b> 56   | 16°10          | 23° 2           | 21°28           | 22°21                 | 0°33           | 17°41          | 4°18          | 10°27 | 7°53           | 9°20           | 10°15  | 9°17          | T 14 |
| W15  | 13 30 38 | 24°31'24          | 15°44           | 18°11          | 24°14           | 22° 4           | 22°13                 | 0°29           | 17°44          | 4°20          | 10°29 | 7°46           | 9°16           | 10°21  | 9°20          | W15  |
| T 16 | 13 34 34 | 25°30'06          | 29°22           | 20°12          | 25°27           | 22°41           | 22° 5                 | 0°25           | 17°46          | 4°22          | 10°30 | 7°39           | 9°13           | 10°28  | 9°23          | T 16 |
| F 17 | 13 38 31 | 26°28'45          | 12 <b>Y</b> 46  | 22°15          | 26°39           | 23°18           | 21°58                 | 0°21           | 17°48          | 4°24          | 10°31 | 7°32           | 9°10           | 10°35  | 9°26          | F 17 |
| S 18 | 13 42 27 | 27°27'23          | 25°55           | 24°19          | 27°52           | 23°54           | 21°50                 | 0°17           | 17°51          | 4°26          | 10°33 | 7°26           | 9° 7           | 10°41  | 9°29          | S 18 |
| S 19 | 13 46 24 | 28°25'59          | 8 <b>8</b> 47   | 26°25          | 29° 4           | 24°31           | 21°42                 | 0°13           | 17°54          | 4°29          | 10°34 | 7°21           | 9° 4           | 10°48  | 9°32          | S 19 |
| M20  | 13 50 20 | 29°24'33          | 21°23           | 28°31          | 0 <b>Ⅱ</b> 16   | 25° 7           | 21°35                 | 0° 9           | 17°56          | 4°31          | 10°35 | 7°18           | 9° 0           | 10°55  | 9°35          | M20  |
| T 21 | 13 54 17 | 0 <b>8</b> 23'05  | 3 <b>Ⅱ</b> 44   | 0 <b>8</b> 38  | 1°28            | 25°44           | 21°27                 | 0° 5           | 17°59          | 4°33          | 10°37 | 7°D17          | 8°57           | 11° 1  | 9°38          | T 21 |
| W22  | 13 58 14 | 1°21'34           | 15°51           | 2°46           | 2°41            | 26°21           | 21°20                 | 0° 2           | 18° 1          | 4°35          | 10°38 | 7°17           | 8°54           | 11° 8  | 9°41          | W22  |
| T 23 | 14 2 10  | 2°20'02           | 27°49           | 4°54           | 3°53            | 26°57           | 21°12                 | 29 <b>m</b> 58 | 18° 4          | 4°37          | 10°39 | 7°18           | 8°51           | 11°15  | 9°43          | T 23 |
| F 24 | 14 6 7   | 3°18'28           | 99540           | 7° 3           | 5° 5            | 27°34           | 21° 5                 | 29°55          | 18° 7          | 4°39          | 10°41 | 7°20           | 8°48           | 11°21  | 9°46          | F 24 |
| S 25 | 14 10 3  | 4°16'52           | 21°29           | 9°11           | 6°17            | 28°11           | 20°57                 | 29°51          | 18°10          | 4°41          | 10°42 | 7°22           | 8°45           | 11°28  | 9°49          | S 25 |
| S 26 | 14 14 0  | 5°15'13           | 3 <b>Ω</b> 22   | 11°19          | 7°29            | 28°47           | 20°50                 | 29°48          | 18°12          | 4°43          | 10°43 | 7°R22          | 8°41           | 11°35  | 9°51          | S 26 |
| M27  | 14 17 56 | 6°13'33           | 15°23           | 13°27          | 8°40            | 29°24           | 20°43                 | 29°44          | 18°15          | 4°45          | 10°45 | 7°22           | 8°38           | 11°41  | 9°54          | M27  |
| T 28 | 14 21 53 | 7°11'50           | 27°37           | 15°34          | 9°52            | 0ණ 1            | 20°36                 | 29°41          | 18°18          | 4°47          | 10°46 | 7°20           | 8°35           | 11°48  | 9°57          | T 28 |
| W29  | 14 25 49 | 8°10'05           | 10 <b>m</b> ) 8 | 17°39          | 11° 4           | 0°38            | 20°29                 | 29°38          | 18°21          | 4°49          | 10°47 | 7°17           | 8°32           | 11°55  | 9°59          | W29  |
| T 30 | 14 29 46 | 98 8'18           | 23 m 0          | 19843          | 12 <b>II</b> 16 | 19914           | 20 <u><b>Ω</b></u> 22 | 29 <b>m</b> 35 | 18 <b>Ⅱ</b> 24 | 4 <b>Υ</b> 51 | 10849 | 7 <b>√</b> 14  | 8 <b>×</b> 729 | 1295 1 | 10 <b>)</b> 1 | T 30 |

| Day         | 0              | D                         | ğ                     | Ф                           | ♂ <sup>™</sup>          | 24   |              | ħ            | l            | );             | β(      | <del>,</del> | (             | Е       | 2     | n      | ಬ           | Ç              | ď              | 5            |
|-------------|----------------|---------------------------|-----------------------|-----------------------------|-------------------------|------|--------------|--------------|--------------|----------------|---------|--------------|---------------|---------|-------|--------|-------------|----------------|----------------|--------------|
|             | decl           | decl lat                  | decl lat              | decl lat                    | decl lat                | decl | lat          | decl         | lat          | decl           | lat     | decl         | lat           | decl    | lat   | decl   | decl        | decl           | decl           | lat          |
| W 1         | 4n16           | 5n58 5s 3                 |                       |                             | 23n51 1n2               |      | 1n34         | 1n48         |              | 22n56          |         | 0n15         |               |         |       |        | 21 s58      |                | 3 s29          |              |
| T 2<br>F 3  | 4 39<br>5 2    | 1 15 5 3<br>3 s 3 9 4 4 7 | 4 32 2 2<br>3 50 2 20 |                             | 23 55 1 2<br>24 0 1 2   |      | 1 34<br>1 34 | 1 50<br>1 52 |              | 22 56<br>22 56 |         | 0 16<br>0 17 | 1 23<br>1 23  |         |       |        |             | 20 40<br>20 39 | 3 27<br>3 26   | 5 16<br>5 16 |
| S 4         | 5 25           | 8 29 4 16                 | 3 6 2 1               |                             |                         |      | 1 34         | 1 53         |              | 22 56          |         | 0 18         | 1 23          |         |       |        |             | 20 38          | 3 25           | 5 16         |
| S 5         | 5 48           | 13 0 3 29                 | 2 22 2 1:             | 5 15 40 0 11                | 24 8 1 2                | 7 41 | 1 34         | 1 55         | 2 37         | 22 57          | 0 5     | 0 18         | 1 23          | 0 1     | 15 39 | 21 41  | 21 56       | 20 36          | 3 23           | 5 16         |
| M 6         | -              | 16 54 2 29                | 1 37 2 12             |                             | 24 11 1 2               |      | 1 34         | 1 57         | 2 37         |                | 0 5     | 0 19         | 1 23          |         |       |        |             | 20 35          | 3 22           | 5 16         |
| T 7         |                | 19 51 1 19                |                       |                             | 24 15 1 2               |      | 1 34         | 1 59         | 2 37         |                | 0 5     | 0 20         | 1 23          | 0 2     |       |        |             | 20 34          | 3 20           | 5 16         |
| W 8<br>T 9  | 6 56<br>7 19   |                           |                       |                             | 24 18 1 2<br>24 22 1 2  |      | 1 34<br>1 34 | 2 0 2        | 2 36 2 36    |                | 0 5 0 5 | 0 21 0 22    | 1 23<br>1 23  | 0 2 0 3 |       |        | 21 55       | 20 33          | 3 19<br>3 18   | 5 16<br>5 17 |
| F 10        |                | 20 56 2 24                | 1 35 1 54             |                             | 24 25 1 2               |      | 1 34         | 2 4          | 2 36         |                |         | 0 22         | 1 23          |         |       |        |             | 20 31          | 3 16           |              |
| S 11        |                | 18 35 3 26                |                       |                             | 24 28 1 2               |      | 1 34         | 2 5          |              | 22 58          |         | 0 24         | 1 23          |         |       |        |             | 20 29          | 3 15           |              |
| S 12        |                | 15 7 4 16                 |                       |                             | 24 31 1 2               | 1    | 1 34         | 2 7          | 2 36         |                |         | 0 24         | 1 23          | -       |       |        |             | 20 28          | 3 14           |              |
| M13         |                | 10 50 4 50                |                       |                             | 24 33 1 2               |      | 1 34         | 2 9          | 2 36         |                |         | 0 25         | 1 23          |         |       |        |             | 20 26          | 3 13           |              |
| T 14<br>W15 | 9 9<br>9 31    | 6 0 5 7<br>0 56 5 6       | 5 0 1 29              |                             |                         |      | 1 34<br>1 34 | 2 10<br>2 12 | 2 36 2 36    |                |         | 0 26<br>0 27 | 1 23<br>1 23  | 0 5     |       |        | 21 52 21 51 | 20 25          | 3 11<br>3 10   | 5 17<br>5 18 |
| T 16        | 9 51           | 4n 8 4 47                 | 6 46 1 1              |                             | 24 40 1 2               |      | 1 34         | 2 12         | 2 36         |                |         | 0 27         | 1 23          |         |       |        |             | 20 24          | 3 9            | 5 18         |
| F 17        | 10 13          | 8 55 4 13                 |                       |                             | 24 42 1 2               |      | 1 34         | 2 15         | 2 36         |                |         | 0 29         | 1 23          |         |       |        | 21 50       |                | 3 7            | 5 18         |
| S 18        | 10 35          | 13 12 3 26                | 8 34 0 50             | 6 20 30 0 49                | 24 44 1 2               | 7 4  | 1 34         | 2 16         | 2 36         | 22 59          | 0 5     | 0 29         | 1 23          | 0 7     | 15 37 | 21 34  | 21 50       | 20 20          | 3 6            | 5 18         |
| S 19        | 10 55          |                           |                       |                             | 24 45 1 2               |      | 1 34         | 2 18         | 2 36         |                |         | 0 30         | 1 23          |         |       |        | -           | 20 19          | 3 5            | 5 18         |
| M20<br>T 21 | -              |                           |                       |                             | 24 47 1 2               |      | 1 33         | 2 19         | 2 36         |                |         | 0 31         | 1 23          |         |       |        |             | 20 18          | 3 4            | 5 18         |
| W22         | 11 37<br>11 57 |                           |                       | 7 21 25 0 58<br>7 21 42 1 0 | 24 48 1 2<br>24 49 1 2  |      | 1 33<br>1 33 | 2 20<br>2 22 | 2 35<br>2 35 |                |         | 0 32 0 33    | 1 23<br>1 23  | 0 9     |       |        |             | 20 16<br>20 15 | 3 2 3 1        | 5 19<br>5 19 |
| T 23        |                | 21 36 0 547               |                       | 6 21 58 1 3                 |                         |      | 1 33         | 2 23         | 2 35         |                | 0 5     | 0 33         | 1 23          |         |       |        |             | 20 13          | 3 0            | 5 19         |
| F 24        | 12 38          | 20 19 2 48                | 13 57 On              |                             |                         | 6 47 | 1 33         | 2 24         | 2 35         |                | 0 5     | 0 34         | 1 23          |         |       |        |             | 20 12          | 2 59           | 5 19         |
| S 25        | 12 57          | 18 9 3 38                 | 14 48 0 1:            | 5 22 30 1 9                 | 24 51 1 2               | 6 45 | 1 33         | 2 26         | 2 35         | 23 1           | 0 5     | 0 35         | 1 23          | 0 11    | 15 37 | 21 33  | 21 47       | 20 11          | 2 58           | 5 19         |
| S 26        | 13 17          | 15 12 4 20                |                       | -                           | 24 52 1 2               |      | 1 33         | 2 27         | 2 35         | -              | 0 5     | 0 36         | 1 24          |         |       |        | -           | 20 10          | 2 57           | 5 20         |
| M27         |                |                           |                       |                             | 24 52 1 2               |      | 1 33         | 2 28         | 2 35         |                |         | 0 37         | 1 24          |         |       |        | 21 46       |                | 2 55           | 5 20         |
| T 28        | 13 55          |                           | 17 16 0 4             |                             | 24 52 1 2               |      | 1 33         | 2 29         | 2 34         |                |         | 0 37         | 1 24          |         |       |        | 21 45       |                | 2 54           |              |
| W29<br>T 30 | 14 14<br>14n33 | 2 56 5 13<br>1 s 50 5 s 2 | 18 2 0 5'<br>18n46 1n |                             | 24 52 1 24<br>24n51 1n2 |      | 1 33<br>1n32 | 2 30<br>2n31 | 2 34<br>2n34 | 23 2<br>23n 2  |         | 0 38<br>0n39 | 1 24<br>1 s24 |         |       |        | 21 45       | 20 6<br>20n 4  | 2 53<br>2 s 52 | 5 20<br>5n20 |
| 1 30        | 171133         | 1550 58 2                 | 1011-10 111           | 1 231120 11122              | 2411J1 1112             | 0832 | 11132        | 21131        | 21154        | 2311 2         | 011 3   | 01139        | 1 524         | 01113   | 13837 | 21 832 | 21344       | 2011 4         | 2332           | 51120        |

Julian Day Number = 2401596.5, Delta T = 8.90 sec Ecliptic obliquity = 23°27'23, Nutation = 0°00'16, out-of-bounds declination in red Ayanamsha: Fagan/Bradley =  $22^{\circ}49'50$ , Lahiri =  $21^{\circ}56'51$ 

MAY 1863 00:00 UT

| Day  | Sid.t    | 0                | D               | ğ     | ρ              | ď      | 4              | ħ               | )∤(            | <del>¥</del>  | Р     | U             | u             | Ç      | ķ              | Day  |
|------|----------|------------------|-----------------|-------|----------------|--------|----------------|-----------------|----------------|---------------|-------|---------------|---------------|--------|----------------|------|
| F 1  | 14 33 43 | 108 6'29         | 6 <b>₽</b> 15   | 21845 | 13 <b>Ⅲ</b> 27 | 1951   | 20°R15         | 29°R32          | 18 <b>Ⅲ</b> 27 | <b>4</b> Υ53  | 10850 | 7°R 9         | 8 <b>₹</b> 26 | 1295 8 | 10 <b>)</b> 4  | F 1  |
| S 2  | 14 37 39 | 11° 4'39         | 19°52           | 23°45 | 14°39          | 2°28   | 20 <b>♀</b> 8  | 29 <b>m</b> 29  | 18°30          | 4°55          | 10°51 | 7 <b>.₹</b> 5 | 8°22          | 12°15  | 10° 6          | S 2  |
| S 3  | 14 41 36 | 12° 2'46         | 3 <b>M</b> 50   | 25°43 | 15°50          | 3° 5   | 20° 1          | 29°26           | 18°33          | 4°57          | 10°53 | 7° 2          | 8°19          | 12°21  | 10° 9          | S 3  |
| M 4  | 14 45 32 | 13° 0'52         | 18° 6           | 27°38 | 17° 1          | 3°41   | 19°55          | 29°23           | 18°36          | 4°59          | 10°54 | 7° 0          | 8°16          | 12°28  | 10°11          | M 4  |
| T 5  | 14 49 29 | 13°58'56         | 2 <b>₹</b> 35   | 29°31 | 18°13          | 4°18   | 19°48          | 29°21           | 18°39          | 5° 1          | 10°56 | 6°D59         | 8°13          | 12°35  | 10°13          | T 5  |
| W 6  | 14 53 25 | 14°56'59         | 17°10           | 1Ⅱ20  | 19°24          | 4°55   | 19°42          | 29°18           | 18°42          | 5° 2          | 10°57 | 6°59          | 8°10          | 12°41  | 10°15          | W 6  |
| T 7  | 14 57 22 | 15°55'00         | 1 <b>る</b> 46   | 3° 6  | 20°35          | 5°32   | 19°35          | 29°16           | 18°45          | 5° 4          | 10°58 | 7° 0          | 8° 6          | 12°48  | 10°17          | T 7  |
| F 8  | 15 1 18  | 16°53'00         | 16°17           | 4°49  | 21°46          | 6° 8   | 19°29          | 29°13           | 18°48          | 5° 6          | 11° 0 | 7° 1          | 8° 3          | 12°55  | 10°19          | F 8  |
| S 9  | 15 5 15  | 17°50'59         | 0≈40            | 6°29  | 22°57          | 6°45   | 19°23          | 29°11           | 18°51          | 5° 8          | 11° 1 | 7° 3          | 8° 0          | 13° 1  | 10°21          | S 9  |
| S 10 | 15 9 12  | 18°48'56         | 14°51           | 8° 5  | 24° 8          | 7°22   | 19°17          | 29° 9           | 18°55          | 5°10          | 11° 2 | 7°R 3         | 7°57          | 13° 8  | 10°23          | S 10 |
| M11  | 15 13 8  | 19°46'52         | 28°49           | 9°38  | 25°19          | 7°59   | 19°12          | 29° 6           | 18°58          | 5°11          | 11° 4 | 7° 3          | 7°54          | 13°15  | 10°25          | M11  |
| T 12 | 15 17 5  | 20°44'47         | 12 <b>)</b> 33  | 11° 7 | 26°29          | 8°36   | 19° 6          | 29° 4           | 19° 1          | 5°13          | 11° 5 | 7° 2          | 7°51          | 13°21  | 10°27          | T 12 |
| W13  | 15 21 1  | 21°42'40         | 26° 2           | 12°32 | 27°40          | 9°13   | 19° 0          | 29° 2           | 19° 4          | 5°15          | 11° 6 | 7° 1          | 7°47          | 13°28  | 10°29          | W13  |
| T 14 | 15 24 58 | 22°40'32         | 9 <b>Υ</b> 16   | 13°54 | 28°51          | 9°49   | 18°55          | 29° 1           | 19° 8          | 5°16          | 11° 8 | 6°59          | 7°44          | 13°35  | 10°31          | T 14 |
| F 15 | 15 28 54 | 23°38'23         | 22°16           | 15°11 | 0ණ 1           | 10°26  | 18°50          | 28°59           | 19°11          | 5°18          | 11° 9 | 6°57          | 7°41          | 13°41  | 10°32          | F 15 |
| S 16 | 15 32 51 | 24°36'13         | 5 <b>8</b> 2    | 16°25 | 1°12           | 11° 3  | 18°44          | 28°57           | 19°14          | 5°20          | 11°10 | 6°55          | 7°38          | 13°48  | 10°34          | S 16 |
| S 17 | 15 36 47 | 25°34'01         | 17°35           | 17°35 | 2°22           | 11°40  | 18°39          | 28°56           | 19°17          | 5°21          | 11°12 | 6°54          | 7°35          | 13°55  | 10°36          | S 17 |
| M18  | 15 40 44 | 26°31'48         | 29°55           | 18°41 | 3°32           | 12°17  | 18°35          | 28°54           | 19°21          | 5°23          | 11°13 | 6°53          | 7°31          | 14° 1  | 10°37          | M18  |
| T 19 | 15 44 41 | 27°29'33         | 12 <b>II</b> 5  | 19°44 | 4°42           | 12°54  | 18°30          | 28°53           | 19°24          | 5°25          | 11°14 | 6°D53         | 7°28          | 14° 8  | 10°39          | T 19 |
| W20  | 15 48 37 | 28°27'18         | 24° 6           | 20°41 | 5°52           | 13°31  | 18°25          | 28°51           | 19°28          | 5°26          | 11°16 | 6°54          | 7°25          | 14°15  | 10°40          | W20  |
| T 21 | 15 52 34 | 29°25'00         | 5959            | 21°35 | 7° 2           | 14° 8  | 18°21          | 28°50           | 19°31          | 5°28          | 11°17 | 6°54          | 7°22          | 14°22  | 10°42          | T 21 |
| F 22 | 15 56 30 | 0 <b>Ⅲ</b> 22'42 | 17°49           | 22°25 | 8°12           | 14°45  | 18°17          | 28°49           | 19°34          | 5°29          | 11°18 | 6°55          | 7°19          | 14°28  | 10°43          | F 22 |
| S 23 | 16 0 27  | 1°20'21          | 29°39           | 23°10 | 9°22           | 15°22  | 18°13          | 28°48           | 19°38          | 5°31          | 11°20 | 6°56          | 7°16          | 14°35  | 10°44          | S 23 |
| S 24 | 16 4 23  | 2°18'00          | 11 <b>0</b> 31  | 23°51 | 10°32          | 15°59  | 18° 9          | 28°47           | 19°41          | 5°32          | 11°21 | 6°56          | 7°12          | 14°42  | 10°46          | S 24 |
| M25  | 16 8 20  | 3°15'37          | 23°32           | 24°27 | 11°41          | 16°35  | 18° 5          | 28°47           | 19°45          | 5°33          | 11°22 | 6°57          | 7° 9          | 14°48  | 10°47          | M25  |
| T 26 | 16 12 16 | 4°13'12          | 5 <b>m</b> ) 44 | 24°59 | 12°51          | 17°12  | 18° 2          | 28°46           | 19°48          | 5°35          | 11°23 | 6°R57         | 7° 6          | 14°55  | 10°48          | T 26 |
| W27  | 16 16 13 | 5°10'46          | 18°14           | 25°27 | 14° 0          | 17°49  | 17°58          | 28°45           | 19°52          | 5°36          | 11°25 | 6°57          | 7° 3          | 15° 2  | 10°49          | W27  |
| T 28 | 16 20 10 | 6° 8'18          | 1 <b>₽</b> 3    | 25°49 | 15° 9          | 18°26  | 17°55          | 28°45           | 19°55          | 5°38          | 11°26 | 6°56          | 7° 0          | 15° 8  | 10°50          | T 28 |
| F 29 | 16 24 6  | 7° 5'49          | 14°17           | 26° 7 | 16°19          | 19° 3  | 17°52          | 28°45           | 19°59          | 5°39          | 11°27 | 6°D56         | 6°57          | 15°15  | 10°51          | F 29 |
| S 30 | 16 28 3  | 8° 3'19          | 27°56           | 26°21 | 17°28          | 19°40  | 17°49          | 28°44           | 20° 2          | 5°40          | 11°28 | 6°57          | 6°53          | 15°22  | 10°52          | S 30 |
| S 31 | 16 31 59 | 9Ⅱ 0'48          | 12 <b>M</b> 0   | 26耳30 | 18937          | 209517 | 17 <b>≏</b> 46 | 28 <b>m</b> /44 | 20耳 6          | 5 <b>Ƴ</b> 41 | 11830 | 6 <b>₹</b> 57 | 6 <b>₮</b> 50 | 15928  | 10 <b>米</b> 53 | S 31 |

| Day  | 0   | D  | ğ   | ç   | )   | 37                                   | 4   |  | ħ  |                                      | )į  | γ(                       | ¥  |  | Р  | n   | v  | Ç  | Š  | 5  |
|--|---|--|---|---|---|--------------------------------------|---|--|--|--------------------------------------|---|--------------------------|--|--|--|---|--|--|--|--|
|  | decl  | decl lat   | decl  | lat decl  | lat decl  | lat                                  | decl  | lat  | decl   | lat                                  | decl  | lat                      | decl la                                      | t  | decl lat   | decl  | decl   | decl   | decl   | lat  |
| F 1<br>S 2   | 14n52<br>15 10                                    |  | 19n28<br>20 7   | 1n17 23n50<br>1 27 24 1   | 1n24 24n51<br>1 27 24 50  | 1n24<br>1 24                         | 6 s 3 0<br>6 2 7  | 1n32<br>1 32   | 2n33<br>2 34   | 2n34<br>2 34                         | 23n 3<br>23 3   |                          |  | 1 s24<br>1 24  | 0n13 15s37<br>0 14 15 37   |   |  |  | 2s51<br>2 50                                 | 5n21<br>5 21   |
| S 3<br>M 4<br>T 5<br>W 6                           | 15 45<br>16 3<br>16 20                            | 18 52 1 42<br>21 5 0 24<br>21 55 0n56                                      | 2 20 45<br>2 21 20<br>4 21 52<br>5 22 22                            | 1 35 24 11<br>1 44 24 21<br>1 51 24 30<br>1 58 24 38  | 1 29 24 49<br>1 32 24 48<br>1 34 24 47<br>1 36 24 46  | 1 24<br>1 24<br>1 24                 | 6 25<br>6 22<br>6 20<br>6 18                                  | 1 32<br>1 32<br>1 32<br>1 32                                 | 2 35<br>2 35<br>2 36<br>2 37                                 | 2 34<br>2 33<br>2 33                 | 23 4  | 0 5<br>0 5<br>0 5        | 0 42<br>0 43<br>0 43                         | 1 24<br>1 24<br>1 24<br>1 24                                 | 0 14 15 37<br>0 14 15 37<br>0 15 15 37<br>0 15 15 37   | 21 30<br>21 29<br>21 30                                     | 21 42<br>21 42<br>21 41                            | 19 59<br>19 58<br>19 56                            | 2 48<br>2 47<br>2 46                         | 5 21<br>5 21<br>5 21<br>5 22                                 |
| T 7<br>F 8<br>S 9                                  | 16 53   | 19 9 3 20  | 22 50<br>23 15<br>23 37   | 2 4 24 46<br>2 10 24 53<br>2 15 24 59   | 1 39 24 44<br>1 41 24 42<br>1 43 24 40  | 1 24                                 | 6 16<br>6 13<br>6 11  | 1 31<br>1 31<br>1 31   | 2 38<br>2 39<br>2 40   | 2 33<br>2 33<br>2 33                 | 23 4  |                          | 0 45   | 1 24<br>1 24<br>1 24   | 0 16 15 37<br>0 16 15 37<br>0 16 15 37   | 21 30   | 21 40  | 19 54  | 2 45<br>2 44<br>2 43                         | 5 22<br>5 22<br>5 22   |
| S 10<br>M11<br>T 12<br>W13<br>T 14<br>F 15<br>S 16 | 17 42<br>17 57<br>18 12<br>18 27<br>18 42         | 7 0 5 13<br>2 1 5 14<br>2n59 4 59<br>7 46 4 27                             |   | 2 19 25 5<br>2 22 25 9<br>2 24 25 14<br>2 25 25 17<br>2 26 25 20<br>2 25 25 22<br>2 24 25 23              | 1 45 24 38<br>1 47 24 36<br>1 49 24 34<br>1 51 24 31<br>1 53 24 28<br>1 55 24 25<br>1 56 24 22            | 1 23<br>1 23<br>1 23<br>1 23<br>1 23 | 6 9<br>6 7<br>6 5<br>6 3<br>6 1<br>6 0<br>5 58                | 1 31<br>1 31<br>1 31<br>1 30<br>1 30<br>1 30<br>1 30         | 2 40<br>2 41<br>2 42<br>2 42<br>2 43<br>2 43<br>2 44         | 2 32<br>2 32<br>2 32                 | 23 5<br>23 6<br>23 6<br>23 6<br>23 6<br>23 6                      | 0 6<br>0 6<br>0 6<br>0 6 | 0 47<br>0 47<br>0 48<br>0 49<br>0 49         | 1 24<br>1 24<br>1 24<br>1 24<br>1 24<br>1 24<br>1 24         | 0 17 15 37<br>0 17 15 37<br>0 17 15 37<br>0 18 15 37<br>0 18 15 37<br>0 19 15 37<br>0 19 15 37               | 21 30<br>21 30<br>21 30<br>21 30<br>21 29<br>21 29          | 21 38<br>21 38<br>21 37<br>21 37<br>21 36          | 19 50<br>19 48<br>19 47<br>19 46<br>19 44          | 2 40<br>2 39                                 | 5 23<br>5 23<br>5 23<br>5 23<br>5 24<br>5 24<br>5 24         |
| S 17<br>M18<br>T 19<br>W20<br>T 21<br>F 22<br>S 23 | 19 24<br>19 37<br>19 50<br>20 2                   | 20 47 0 39<br>21 47 0 829<br>21 46 1 34<br>20 45 2 35<br>18 50 3 28        | 25 14<br>25 17<br>25 18<br>25 17<br>25 15<br>25 15<br>25 11<br>25 6 | 2 22 25 24<br>2 19 25 24<br>2 15 25 23<br>2 10 25 22<br>2 4 25 20<br>1 57 25 17<br>1 49 25 13             | 1 58 24 19<br>2 0 24 15<br>2 1 24 12<br>2 2 24 8<br>2 4 24 4<br>2 5 24 0<br>2 6 23 55                     | 1 22<br>1 22<br>1 22<br>1 22<br>1 22 | 5 56<br>5 55<br>5 53<br>5 51<br>5 50<br>5 49<br>5 47          | 1 30<br>1 29<br>1 29<br>1 29<br>1 29<br>1 28<br>1 28         | 2 44<br>2 45<br>2 45<br>2 45<br>2 46<br>2 46<br>2 46         | 2 31<br>2 31                         | 23 8  | 0 6<br>0 6<br>0 6<br>0 6 | 0 51<br>0 52<br>0 52<br>0 53<br>0 53         | 1 24<br>1 24<br>1 24<br>1 24<br>1 24<br>1 24<br>1 25         | 0 19 15 37<br>0 20 15 37<br>0 20 15 37<br>0 20 15 37<br>0 20 15 37<br>0 21 15 37<br>0 21 15 37               | 21 29<br>21 29<br>21 29<br>21 29<br>21 29<br>21 29          | 21 35<br>21 34<br>21 34<br>21 33<br>21 33          | 19 40<br>19 39<br>19 37<br>19 36<br>19 34          | 2 35<br>2 34<br>2 33                         | 5 24<br>5 25<br>5 25<br>5 25<br>5 25<br>5 26<br>5 26         |
|  | 20 49<br>21 0<br>21 11<br>21 21<br>21 31<br>21 40 | 8 49 5 9<br>4 29 5 18<br>0s 7 5 11<br>4 51 4 50<br>9 31 4 13<br>13 52 3 20 | 23 54   | 1 40 25 9<br>1 31 25 4<br>1 20 24 59<br>1 9 24 53<br>0 56 24 46<br>0 43 24 38<br>0 30 24 30<br>0n15 24n21 | 2 7 23 51<br>2 8 23 46<br>2 9 23 42<br>2 10 23 37<br>2 11 23 31<br>2 12 23 26<br>2 12 23 21<br>2n13 23n15 | 1 21<br>1 21<br>1 21<br>1 21<br>1 21 | 5 46<br>5 45<br>5 44<br>5 43<br>5 42<br>5 41<br>5 40<br>5 s39 | 1 28<br>1 28<br>1 27<br>1 27<br>1 27<br>1 27<br>1 26<br>1n26 | 2 46<br>2 46<br>2 46<br>2 46<br>2 46<br>2 46<br>2 46<br>2 46 | 2 29<br>2 29<br>2 29<br>2 29<br>2 28 | 23 9<br>23 9<br>23 9<br>23 10<br>23 10<br>23 10<br>23 11<br>23n11 | 0 6<br>0 6<br>0 6<br>0 6 | 0 55<br>0 55<br>0 56<br>0 56<br>0 57<br>0 57 | 1 25<br>1 25<br>1 25<br>1 25<br>1 25<br>1 25<br>1 25<br>1 25 | 0 21 15 33<br>0 22 15 33<br>0 22 15 38<br>0 22 15 38<br>0 22 15 38<br>0 23 15 38<br>0 23 15 38<br>0 23 15 38 | 21 29<br>21 29<br>21 29<br>21 29<br>21 29<br>21 29<br>21 29 | 21 31<br>21 31<br>21 30<br>21 30<br>21 29<br>21 29 | 19 30<br>19 29<br>19 27<br>19 26<br>19 25<br>19 23 | 2 30<br>2 29<br>2 28<br>2 28<br>2 27<br>2 27 | 5 26<br>5 26<br>5 27<br>5 27<br>5 27<br>5 27<br>5 28<br>5n28 |

Julian Day Number = 2401626.5, Delta T = 8.89 sec Ecliptic obliquity =  $23^{\circ}27'22$ , Nutation =  $0^{\circ}00'15$ , out-of-bounds declination in red Ayanamsha: Fagan/Bradley =  $22^{\circ}49'54$ , Lahiri =  $21^{\circ}56'55$ 

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| M 1 16 35 56 9  |      |          |          |                 |                |        |               |                |                 |                 |                |       |               |                |        |                |      |
|---|------|----------|----------|-----------------|----------------|--------|---------------|----------------|-----------------|-----------------|----------------|-------|---------------|----------------|--------|----------------|------|
| $\begin{array}{c} T \geq 1 \ 639 \ 52 \   \ 10^{\circ}5542 \   \ 11^{\circ}41 \   \ 26 \ 11^{\circ}33 \   \ 20^{\circ}54 \   \ 21^{\circ}31 \   \ 17^{\circ}41 \   \ 28 \ 10^{\circ}44 \   \ 20^{\circ}16 \   \ 5^{\circ}44 \   \ 11^{\circ}32 \   \ 6^{\circ}857 \   \ 6^{\circ}44 \   \ 15^{\circ}42 \   \ 10^{\circ}54 \   \ T \ 24^{\circ}16 \   \ 26^{\circ}10 \   \ 26^{\circ}26 \   \ 26^{\circ}26 \   \ 22^{\circ}3 \   \ 22^{\circ}8 \   \ 17^{\circ}39 \   \ 28^{\circ}44 \   \ 20^{\circ}16 \   \ 5^{\circ}45 \   \ 11^{\circ}33 \   \ 6^{\circ}57 \   \ 6^{\circ}41 \   \ 15^{\circ}48 \   \ 10^{\circ}55 \   \ W \ 3 \   \ 4 \   \ 46^{\circ}45 \   \ 10^{\circ}33 \   \ 10^{\circ}55 \   \ 26^{\circ}5 \   \ 26^{\circ}5 \   \ 24^{\circ}19 \   \ 23^{\circ}22 \   \ 17^{\circ}35 \   \ 28^{\circ}45 \   \ 20^{\circ}23 \   \ 5^{\circ}46 \   \ 11^{\circ}35 \   \ 6^{\circ}56 \   \ 6^{\circ}34 \   \ 16^{\circ}2 \   \ 2 \ 10^{\circ}56 \   \ 5 \ 5 \   \ 6 \   \ 6 \ 5^{\circ}34 \   \ 16^{\circ}2 \   \ 2 \ 10^{\circ}56 \   \ 5 \ 5 \   \ 6 \   \ 6 \ 5^{\circ}34 \   \ 16^{\circ}2 \   \ 2 \ 10^{\circ}56 \   \ 5 \ 5 \   \ 6 \   \ 6 \ 5^{\circ}34 \   \ 16^{\circ}2 \   \ 2 \ 10^{\circ}56 \   \ 5 \ 5 \   \ 6 \ 6 \ 6 \ 6^{\circ}34 \   \ 16^{\circ}2 \   \ 2 \ 10^{\circ}56 \   \ 5 \ 5 \   \ 6 \ 6 \ 6 \ 6^{\circ}34 \   \ 16^{\circ}2 \   \ 2 \ 10^{\circ}56 \   \ 5 \ 5 \   \ 6 \ 6 \ 6 \ 6 \ 6^{\circ}34 \   \ 16^{\circ}2 \   \ 2 \ 10^{\circ}56 \   \ 5 \ 5 \   \ 6 \ 6 \ 6 \ 6 \ 6 \ 6 \ 6 \ 6 \ 6$  | Day  | Sid.t    | 0        | D               | ğ              | φ      | ď             | 4              | ħ               | )∤(             | 卉              | Р     | n             | Ω              | Ç      | ę,             | Day  |
| W 3         16 43 49         11°63'07         26°10         26°28         22° 3         22° 8         17°39         28°44         20°16         5°45         11°33         6°57         6°41         15°48         10°55         T 4           F 5         16 63 142         13°47'56         26° 5         26° 5         26° 5         24°19         23°22         17°35         28°44         20°23         5°46         11°35         6°56         6°34         16°25         10°55         T 4           F 5         16 65 1.42         13°47'56         26° 5         26° 5         24°19         23°22         17°35         28°44         20°23         5°48         11°37         6°55         6°31         16° 8         10°57         8°           S 7         16 59 35         15°42'41         25°12         25°27         26°36         24°36         17°31         28°46         20°30         5°49         11°39         6°54         6°25         16°22         10°57         N         8           T 9         17 7 28         17°3725         22°47         24°36         28°51         17°30         28°47         20°37         5°51         11°40         6°54         6°22         16°22         10°57         M  | M 1  | 16 35 56 | 9∏58'15  | 26M28           | 26°R34         | 199545 | 20954         | 17°R44         | 28°D44          | 20耳 9           | 5 <b>Υ</b> 43  | 11831 | 6 <b>才</b> 57 | 6 <b>∡</b> 147 | 15935  | 10 <b>¥</b> 53 | M 1  |
| $ \begin{array}{c ccccccccccccccccccccccccccccccccccc$  | T 2  | 16 39 52 | 10°55'42 | 11 <b>×</b> 13  |                | 20°54  |               | 17 <b>≏</b> 41 | 28 <b>m</b> /44 | 20°13           | 5°44           | 11°32 | 6°R57         | 6°44           | 15°42  | 10°54          | T 2  |
| F 5 16 51 42 13°47'56   | W 3  | 16 43 49 | 11°53'07 | 26°10           | 26°28          | 22° 3  | 22° 8         | 17°39          | 28°44           | 20°16           | 5°45           | 11°33 | 6°57          | 6°41           | 15°48  | 10°55          | W 3  |
| S 6         1655 39         14°45°19         10≈48         25°48         25°28         23°59         17°34         28°45         20°27         5°48         11°37         6°55         6°31         16°8         10°57         S 6           S 7         16 59 35         15°42'41         25°12         25°27         26°36         24°36         17°32         28°46         20°30         5°49         11°38         6°54         6°28         16°15         10°57         S 7           M 8         17 33 2         16°40'03         9 17°32         22°57         24°36         28°51         13°31         28°46         20°30         5°49         11°38         6°54         6°28         16°15         10°57         S 7           W10         17 12 25°27         24°36         28°51         13°31         28°44         20°37         5°51         11°40         6°54         6°28         16°22         10°58         M 8           W10         17 12 25         18°34'46         6°717         24°7         29°59         26°28         17°29         28°48         20°41         5°52         11°41         6°54         6°18         16°22         10°58         M 11         17°19         18°24         17°27         <   | T 4  | 16 47 45 | 12°50'32 | 11 <b>궁</b> 10  | 26°19          | 23°11  | 22°45         | 17°37          | 28°44           | 20°20           | 5°46           | 11°35 | 6°56          | 6°37           | 15°55  | 10°55          | T 4  |
| \$\begin{array}{c c c c c c c c c c c c c c c c c c c   | F 5  | 16 51 42 | 13°47'56 | 26° 5           | 26° 5          | 24°19  | 23°22         | 17°35          | 28°45           | 20°23           | 5°47           | 11°36 | 6°56          | 6°34           | 16° 2  | 10°56          | F 5  |
| $\begin{array}{c ccccccccccccccccccccccccccccccccccc$   | S 6  | 16 55 39 | 14°45'19 | 10≈48           | 25°48          | 25°28  | 23°59         | 17°34          | 28°45           | 20°27           | 5°48           | 11°37 | 6°55          | 6°31           | 16° 8  | 10°57          | S 6  |
| $\begin{array}{cccccccccccccccccccccccccccccccccccc$  | S 7  | 16 59 35 | 15°42'41 | -               |                | 26°36  | 24°36         | 17°32          | 28°46           | 20°30           | 5°49           | 11°38 | 6°54          | 6°28           | 16°15  | 10°57          | S 7  |
| $ \begin{array}{c ccccccccccccccccccccccccccccccccccc$  | _    |          |          |                 |                |        |               |                |                 |                 |                |       |               |                |        |                | M 8  |
| $\begin{array}{c ccccccccccccccccccccccccccccccccccc$   | T 9  | 17 7 28  | 17°37'25 |                 |                | 28°51  |               | 17°30          | 28°47           | 20°37           |                | 11°40 | 6°D54         |                | 16°28  |                | T 9  |
| $ \begin{array}{cccccccccccccccccccccccccccccccccccc$   |      |          |          |                 |                |        |               |                |                 | -               |                |       |               |                |        |                | W10  |
| \$\begin{array}{c ccccccccccccccccccccccccccccccccccc   | l    |          |          |                 |                |        |               |                |                 |                 |                | _     |               |                | -      |                |      |
| S 14       17 27 11       22°24'05       26°45       21°55       4°28       28°56       17°27       28°52       20°55       5°56       11°46       6°58       6°       6       17°       2       10°R59       S 14         M15       17 31       8       23°21'24       8 II51       21°21       5°35       29°33       17°D27       28°54       20°59       5°57       11°47       6°R58       6°       3       17°8       10°R59       M15         T16       17 35       4       24°18'42       20°50       20°49       6°42       0Ω10       17°27       28°55       21° 2       5°58       11°48       6°58       5°59       17°15       10°85       T16         W17       17 39       1       25°16'00       2564       20°17       7°48       0°47       17°28       28°57       21° 6       5°58       11°49       6°56       5°56       17°22       10°58       W17         T18       17 42 57       26°13'17       14°34       19°48       8°55       1°25       17°28       28°59       21°10       5°59       11°50       6°54       5°53       17°22       10°58       T18         F 19       17 46 54       27°10'33 <td></td> <td></td> <td></td> <td>_</td> <td></td> <td></td> <td>-</td> <td></td>   |      |          |          | _               |                |        | -             |                |                 |                 |                |       |               |                |        |                |      |
| M15   | S 13 | 17 23 14 | 21°26'46 | 14°28           | 22°29          | 3°21   | 28°19         | 17°27          | 28°51           | 20°52           | 5°55           | 11°45 | 6°57          | 6° 9           | 16°55  | 10°58          | S 13 |
| $\begin{array}{cccccccccccccccccccccccccccccccccccc$  |      | -, -,    |          |                 |                |        |               |                |                 |                 |                |       |               |                |        |                | S 14 |
| $\begin{array}{c ccccccccccccccccccccccccccccccccccc$   | _    |          | -        |                 |                |        |               |                |                 |                 |                | -     |               |                |        |                | _    |
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| $\begin{array}{c ccccccccccccccccccccccccccccccccccc$   | l    |          |          |                 |                |        |               |                |                 | -               |                | _     |               |                |        |                |      |
| $\begin{array}{cccccccccccccccccccccccccccccccccccc$  | _    |          |          | _               | -              |        | _             |                |                 | -               |                |       |               |                |        |                | _    |
| $\begin{array}{c ccccccccccccccccccccccccccccccccccc$   |      |          |          |                 |                | -      |               |                |                 |                 |                | _     |               |                |        |                |      |
| $\begin{array}{c ccccccccccccccccccccccccccccccccccc$   | S 20 | 17 50 50 | 28° 7'49 | 88214           | 18°57          | 11° 7  | 2°39          | 17°30          | 29° 2           | 21°17           | 6° 0           | 11°52 | 6°48          | 5°47           | 17°42  | 10°58          | S 20 |
| $\begin{array}{cccccccccccccccccccccccccccccccccccc$  | S 21 | 17 54 47 | 29° 5'04 | 20° 8           | 18°37          | 12°13  | 3°16          | 17°31          |                 |                 |                | 11°53 | 6°44          | 5°43           | 17°49  | 10°57          | S 21 |
| $\begin{array}{c ccccccccccccccccccccccccccccccccccc$   | M22  | 17 58 43 | 09 2'19  | 2 Mp 10         |                | 13°19  | 3°53          | 17°32          | 29° 6           | 21°24           |                | 11°54 | 6°41          | 5°40           | 17°55  | 10°57          | M22  |
| $\begin{array}{cccccccccccccccccccccccccccccccccccc$  |      |          |          |                 |                | _      | -             |                |                 | -               |                |       |               |                | -      |                | T 23 |
| $\begin{array}{c ccccccccccccccccccccccccccccccccccc$   | W24  | 18 6 37  | 1°56'47  |                 | 17°58          | 15°30  | 5° 8          |                | 29°10           | _               |                | 11°56 | 6°D38         | 5°34           | 18° 9  |                |      |
| S 27     18 18 26     4°48'24     6 \( \bar{\pi}\) 15     18° 0     18°45     7° 0     17°41     29°18     21°41     6° 4     11°59     6°41     5°24     18°29     10°54     S 27       S 28     18 22 23     5°45'35     20°15     18°10     19°49     7°37     17°43     29°20     21°45     6° 5     12° 0     6°42     5°21     18°35     10°53     S 28       M29     18 26 19     6°42'46     4 \( \bar{\pi}\)41     18°25     20°54     8°14     17°45     29°23     21°48     6° 5     12° 0     6°843     5°18     18°42     10°52     M29  | _    |          |          |                 |                |        |               |                |                 | _               |                |       |               |                |        |                | T 25 |
| S 28     18 22 23     5°45'35     20°15     18°10     19°49     7°37     17°43     29°20     21°45     6° 5     12° 0     6°42     5°21     18°35     10°53     S 28       M29     18 26 19     6°42'46     4x41     18°25     20°54     8°14     17°45     29°23     21°48     6° 5     12° 0     6°843     5°18     18°42     10°52     M29   | l    |          |          |                 | -,             | -,     |               |                |                 |                 |                |       |               |                | -      |                | F 26 |
| M29   18 26 19   6°42'46   4\$\textbf{7}\dd 41   18°25   20°54   8°14   17°45   29°23   21°48   6° 5   12° 0   6°R43   5°18   18°42   10°52   M29   | S 27 | 18 18 26 | 4°48'24  | 6 <b>M</b> .15  | 18° 0          | 18°45  | 7° 0          | 17°41          | 29°18           | 21°41           | 6° 4           | 11°59 | 6°41          | 5°24           | 18°29  | 10°54          | S 27 |
|   |      |          |          |                 |                |        |               |                |                 | -               |                | -     |               |                |        |                | S 28 |
| T 30   18 30 16   7©39'57   19x'30   18 II 45   21 £058   8£051   17 ±048   29 III 26   21 II 52   6'Y' 5   12 €0 1   6x'42   5x'15   18 ±049   10 €0 52   T 30   18 II 45   21 £058   8£051   17 ±048   29 III 26   21 II 52   6'Y' 5   12 €0 1   6x'42   5x'15   18 ±049   10 €0 52   T 30   18 II 45   21 £058   8£051   17 ±048   29 III 26   21 II 52   6'Y' 5   12 €0 1   6x'42   5x'15   18 ±049   10 €0 52   T 30   18 II 45   21 £058   8£051   17 ±048   29 III 26   21 II 52   6'Y' 5   12 €0 1   6x'42   5x'15   18 ±049   10 €0 52   T 30   18 II 45   21 £058   8£051   17 ±048   29 III 26   21 II 52   6'Y' 5   12 €0 1   6x'42   5x'15   18 ±049   10 €0 52   T 30   18 II 45   21 £058   8£051   17 ±048   29 III 26   21 II 52   6'Y' 5   12 €0 1   6x'42   5x'15   18 ±049   10 €0 52   T 30   18 II 45   21 £058   8£051   17 ±048   29 III 26   21 II 52   6'Y' 5   12 €0 1   21 £058   8£051   17 ±048   29 III 26   21 II 52   6'Y' 5   12 €0 1   21 £058   8£051   17 ±048   29 III 26   21 II 52   6'Y' 5   12 €0 1   21 £058   8£051   17 ±058   8£058   17 ±058   8£058   17 ±058   8£058   17 ±058   8£058   17 ±058   8£058   17 ±058   8£058   17 ±058   8£058   17 ±058   8£058   17 ±058   8£058   17 ±058   8£058   17 ±058   8 |      |          |          |                 |                |        |               | -,             | -               |                 |                |       |               |                |        |                | -    |
|   | T 30 | 18 30 16 | 7939'57  | 19 <b>×</b> 730 | 18 <b>Ⅱ</b> 45 | 212258 | 8 <b>N</b> 51 | 17 <b>≏</b> 48 | 29 Mp 26        | 21 <b>II</b> 52 | 6 <b>'Y'</b> 5 | 128 1 | 6 <b>₹</b> 42 | 5 <b>₹</b> 15  | 189549 | 10 <b>米</b> 52 | T 30 |

| Day          | 0              | J             | )    | ζ              | i            | ρ     |      | d              | 7            | 2            | ŀ            | ħ            | <u> </u>  | );             | β(  | <del>,</del> | (            | Р      |       | n              | u     | ţ     | ď            | 5            |
|--------------|----------------|---------------|------|----------------|--------------|-------|------|----------------|--------------|--------------|--------------|--------------|-----------|----------------|-----|--------------|--------------|--------|-------|----------------|-------|-------|--------------|--------------|
|              | decl           | decl l        | lat  | decl           | lat          | decl  | lat  | decl           | lat          | decl         | lat          | decl         | lat       | decl           | lat | decl         | lat          | decl l | at    | decl           | decl  | decl  | decl         | lat          |
| M 1          |                | 20s19         |      | 23n24          |              | 24n12 | -    | 23n 9          | 1n20         | 5 s 3 8      | 1n26         | 2n46         |           | 23n11          |     | 0n58         |              |        |       |                |       | 19n20 | 2 s 2 5      | 5n28         |
| T 2<br>W 3   | 22 6<br>22 14  | 21 45 21 39   | 0n24 | 23 9<br>22 52  | 0 16<br>0 32 |       |      | 23 3<br>22 57  | 1 20<br>1 20 | 5 38<br>5 37 | 1 26<br>1 25 | 2 46<br>2 45 |           | 23 11<br>23 12 |     | 0 59<br>0 59 | 1 25<br>1 25 |        |       | 21 29<br>21 29 |       |       | 2 25<br>2 24 | 5 28<br>5 29 |
| T 4          | 22 21          | 20 1          |      | 22 35          | 0 49         |       | 2 14 |                | 1 20         | 5 37         | 1 25         | 2 45         |           |                |     | 0 59         | 1 25         |        |       | 21 29          |       |       | 2 24         | 5 29         |
| F 5          | 22 28          | 17 1          |      | 22 18          | 1 6          |       |      | 22 44          | 1 20         | 5 36         | 1 25         | 2 45         | 2 27      |                |     | 1 0          | 1 25         |        |       | 21 29          |       |       | 2 23         | 5 29         |
| S 6          | 22 35          | 12 58         | 4 45 | 22 0           | 1 23         | 23 15 | 2 13 | 22 38          | 1 20         | 5 36         | 1 25         | 2 44         | 2 27      | 23 12          | 0 6 | 1 0          | 1 25         | 0 24   | 15 39 | 21 29          | 21 25 | 19 13 | 2 23         | 5 30         |
| S 7          | 22 41          |               | -    | 21 42          | 1 41         | -     |      | 22 31          | 1 19         | 5 35         | 1 24         | 2 44         |           | 23 13          |     | 1 1          | 1 25         |        |       |                |       | 19 12 | 2 23         | 5 30         |
| M 8          | 22 47          |               |      | 21 24          | 1 58         |       |      | 22 24          | 1 19         | 5 35         | 1 24         | 2 44         | 2 26      |                |     | 1 1          | 1 25         |        |       |                |       | 19 10 | 2 22         | 5 30         |
| T 9          | 22 53          | 1n52          | -    | 21 6           |              | 22 34 |      | 22 17          | 1 19         | 5 35         | 1 24         | 2 43         | 2 26      |                |     | 1 1          | 1 25         |        |       | 21 29          |       |       | 2 22         | 5 30         |
| W10<br>T 11  | 22 58<br>23 3  | -             |      | 20 48<br>20 31 | 2 31 2 47    |       | 2 12 | 22 10<br>22 3  | 1 19<br>1 19 | 5 35<br>5 35 | 1 24<br>1 23 | 2 43<br>2 42 | 2 26      | 23 13<br>23 14 |     | 1 2          | 1 25<br>1 25 |        |       | 21 29<br>21 29 |       |       | 2 21 2 21    | 5 31 5 31    |
| F 12         | 23 7           | 15 1          |      | 20 14          |              | 21 48 |      | 21 55          | 1 18         | 5 35         | 1 23         | 2 41         |           | 23 14          |     | 1 2          | 1 26         |        |       | 21 29          |       |       | 2 21         | 5 31         |
| S 13         | 23 11          |               | -    | 19 58          |              | 21 31 |      | 21 47          | 1 18         | 5 35         | 1 23         | 2 41         |           | 23 14          |     | 1 3          | 1 26         |        |       | 21 29          |       |       | 2 20         | 5 31         |
| S 14         | 23 14          | -             |      | 19 43          |              | 21 14 |      | 21 40          | 1 18         | 5 35         | 1 23         | 2 40         |           | 23 14          | 0 6 | 1 3          | 1 26         |        |       | 21 29          |       |       | 2 20         | 5 32         |
| M15          | 23 17          |               |      | 19 29          |              | 20 57 |      | 21 32          | 1 18         | 5 35         | 1 22         | 2 39         | 2 25      |                |     | 1 3          | 1 26         |        |       | 21 29          |       |       | 2 20         | 5 32         |
| T 16         |                | 21 53         |      | 19 15          |              | 20 39 |      | 21 23          | 1 18         | 5 36         | 1 22         | 2 38         | 2 25      |                |     | 1 3          | 1 26         |        |       | 21 29          |       |       | 2 20         | 5 32         |
| W17          | 23 22          | -             |      | 19 4           | 4 3          |       |      | 21 15          | 1 17         | 5 36         | 1 22         | 2 38         | 2 24      |                |     | 1 4          | 1 26         |        |       | 21 29          |       |       | 2 20         | 5 32         |
|              | 23 24<br>23 26 |               |      | 18 53<br>18 44 | 4 11 4 18    | -     |      | 21 7<br>20 58  | 1 17<br>1 17 | 5 36<br>5 37 | 1 21<br>1 21 | 2 37<br>2 36 | 2 24 2 24 |                |     | 1 4          | 1 26<br>1 26 |        |       | 21 29<br>21 28 |       |       | 2 19<br>2 19 | 5 33<br>5 33 |
| S 20         | -              |               |      | 18 37          | 4 24         |       |      | 20 50          | 1 17         | 5 38         | 1 21         | 2 35         |           | 23 16          |     | 1 4          | 1 26         |        |       | 21 28          |       |       | 2 19         | 5 33         |
| S 21         | 23 27          | 10 1          | 5 1  | 18 31          | 4 28         | 19 2  | 1 58 | 20 41          | 1 17         | 5 38         | 1 21         | 2 34         | 2 24      | 23 16          | 0 6 | 1 5          | 1 26         | 0 26   | 15 42 | 21 27          | 21 17 | 18 51 | 2 19         | 5 34         |
| M22          | 23 27          | 5 50          | 5 13 | 18 27          | 4 31         | 18 41 | 1 56 | 20 32          | 1 16         | 5 39         | 1 20         | 2 33         | 2 23      | 23 16          | 0 6 | 1 5          | 1 26         | 0 27   | 15 42 | 21 26          | 21 16 | 18 49 | 2 19         | 5 34         |
| T 23         | 23 27          | 1 22          |      | 18 24          | 4 32         |       |      | 20 23          | 1 16         | 5 40         | 1 20         | 2 32         |           | 23 17          | 0 6 | 1 5          | 1 26         |        |       | 21 26          |       |       | 2 19         | 5 34         |
| W24          | 23 26          | 3 s 1 5       |      | 18 24          | 4 32         |       |      | 20 14          | 1 16         | 5 41         | 1 20         | 2 31         | 2 23      |                |     | 1 5          | 1 26         |        | -     | 21 26          |       |       | 2 19         | 5 34         |
| T 25         | 23 25          | 7 50          |      | 18 25          | 4 31         |       | 1 50 |                | 1 16         | 5 41         | 1 20         | 2 30         | 2 23      |                |     | 1 5          | 1 26         |        |       | 21 26          |       |       | 2 19         | 5 35         |
| F 26<br>S 27 | 23 24<br>23 22 | 12 13<br>16 7 |      | 18 27<br>18 32 | 4 28<br>4 24 |       |      | 19 55<br>19 45 | 1 16<br>1 15 | 5 42<br>5 44 | 1 19<br>1 19 | 2 28<br>2 27 | 2 22 22   | 23 17<br>23 18 |     | 1 5          | 1 26<br>1 26 |        |       | 21 26<br>21 26 |       |       | 2 19<br>2 19 | 5 35<br>5 35 |
| S 28         |                |               |      | 18 37          |              | 16 30 |      | 19 35          | 1 15         | 5 45         | 1 19         | 2 26         |           | 23 18          |     | 1 6          | 1 26         |        |       |                |       | 18 40 | 2 19         | 5 35         |
|              | 23 20          |               | -    | 18 45          | 4 19         |       |      | 19 33          | 1 15         | 5 46         | 1 19         | 2 25         |           | 23 18          |     | 1 6          | 1 26         |        |       |                |       | 18 39 | 2 19         | 5 36         |
|              | 23n14          | -             | -    | 18n53          |              | 15n43 |      | 19n15          |              | 5 s47        | 1n18         | 2n23         |           | 23n18          |     |              |              |        |       | 21 s27         |       |       | 2s19         |              |

Julian Day Number = 2401657.5, Delta T = 8.87 sec Ecliptic obliquity = 23°27'21, Nutation = 0°00'15, out-of-bounds declination in red Ayanamsha: Fagan/Bradley =  $22^{\circ}49'59$ , Lahiri =  $21^{\circ}56'59$ 

JULY 1863 00:00 UT

| Day  | Sid.t    | 0                | D               | ğ             | Q                | ♂              | 4              | ħ              | )∤(            | <del>¥</del> | Р              | u             | Ω             | ţ      | ę,             | Day  |
|------|----------|------------------|-----------------|---------------|------------------|----------------|----------------|----------------|----------------|--------------|----------------|---------------|---------------|--------|----------------|------|
| W 1  | 18 34 12 | 8937'08          | 4 <b>궁</b> 36   | 19耳 9         | 23& 2            | 9 <b>Ω</b> 29  | 17 <b>≏</b> 51 | 29 <b>m</b> 29 | 21 <b>Ⅱ</b> 55 | 6 <b>Υ</b> 6 | 12 <b>8</b> 2  | 6°R40         | 5 <b>₹</b> 12 | 18955  | 10°R51         | W 1  |
| T 2  | 18 38 9  | 9°34'19          | 19°50           | 19°39         | 24° 5            | 10° 6          | 17°54          | 29°32          | 21°59          | 6° 6         | 12° 3          | 6 <b>₮</b> 37 | 5° 9          | 19° 2  | 10 <b>∺</b> 50 | T 2  |
| F 3  | 18 42 6  | 10°31'29         | 5≈ 2            | 20°13         | 25° 9            | 10°43          | 17°57          | 29°35          | 22° 2          | 6° 6         | 12° 4          | 6°33          | 5° 5          | 19° 9  | 10°49          | F 3  |
| S 4  | 18 46 2  | 11°28'40         | 20° 2           | 20°52         | 26°12            | 11°21          | 18° 0          | 29°38          | 22° 5          | 6° 6         | 12° 5          | 6°28          | 5° 2          | 19°15  | 10°48          | S 4  |
| S 5  | 18 49 59 | 12°25'51         | 4 <b>) (</b> 42 | 21°36         | 27°14            | 11°58          | 18° 4          | 29°41          | 22° 9          | 6° 6         | 12° 5          | 6°23          | 4°59          | 19°22  | 10°47          | S 5  |
| M 6  | 18 53 55 | 13°23'02         | 18°57           | 22°25         | 28°17            | 12°35          | 18° 7          | 29°45          | 22°12          | 6° 7         | 12° 6          | 6°20          | 4°56          | 19°29  | 10°45          | M 6  |
| T 7  | 18 57 52 | 14°20'13         | 2 <b>Υ</b> 44   | 23°19         | 29°19            | 13°13          | 18°11          | 29°48          | 22°16          | 6° 7         | 12° 7          | 6°17          | 4°53          | 19°35  | 10°44          | T 7  |
| W 8  | 19 148   | 15°17'25         | 16° 4           | 24°17         | 0 <b>m</b> 21    | 13°50          | 18°15          | 29°51          | 22°19          | 6° 7         | 12° 8          | 6°D17         | 4°49          | 19°42  | 10°43          | W 8  |
| T 9  | 19 5 45  | 16°14'38         | 28°59           | 25°19         | 1°23             | 14°27          | 18°19          | 29°55          | 22°22          | 6° 7         | 12° 8          | 6°17          | 4°46          | 19°49  | 10°42          | T 9  |
| F 10 | 19 941   | 17°11'50         | 11834           | 26°26         | 2°24             | 15° 5          | 18°23          | 29°59          | 22°26          | 6°R 7        | 12° 9          | 6°19          | 4°43          | 19°55  | 10°40          | F 10 |
| S 11 | 19 13 38 | 18° 9'04         | 23°52           | 27°38         | 3°26             | 15°42          | 18°28          | 0요 2           | 22°29          | 6° 7         | 12°10          | 6°20          | 4°40          | 20° 2  | 10°39          | S 11 |
| S 12 | 19 17 35 | 19° 6'18         | 5 <b>Ⅱ</b> 58   | 28°54         | 4°26             | 16°20          | 18°32          | 0° 6           | 22°32          | 6° 7         | 12°10          | 6°R21         | 4°37          | 20° 9  | 10°37          | S 12 |
| M13  | 19 21 31 | 20° 3'32         | 17°55           | 09୍ତ14        | 5°27             | 16°57          | 18°37          | 0°10           | 22°36          | 6° 7         | 12°11          | 6°20          | 4°34          | 20°16  | 10°36          | M13  |
| T 14 | 19 25 28 | 21° 0'47         | 29°47           | 1°38          | 6°27             | 17°35          | 18°42          | 0°14           | 22°39          | 6° 7         | 12°11          | 6°18          | 4°30          | 20°22  | 10°34          | T 14 |
| W15  | 19 29 24 | 21°58'02         | 119936          | 3° 6          | 7°27             | 18°12          | 18°47          | 0°18           | 22°42          | 6° 6         | 12°12          | 6°13          | 4°27          | 20°29  | 10°33          | W15  |
| T 16 | 19 33 21 | 22°55'18         | 23°25           | 4°39          | 8°26             | 18°50          | 18°52          | 0°22           | 22°45          | 6° 6         | 12°13          | 6° 6          | 4°24          | 20°36  | 10°31          | T 16 |
| F 17 | 19 37 17 | 23°52'34         | 5 <b>Ω</b> 16   | 6°15          | 9°26             | 19°27          | 18°58          | 0°27           | 22°48          | 6° 6         | 12°13          | 5°58          | 4°21          | 20°42  | 10°29          | F 17 |
| S 18 | 19 41 14 | 24°49'50         | 17°11           | 7°56          | 10°24            | 20° 5          | 19° 3          | 0°31           | 22°52          | 6° 6         | 12°14          | 5°49          | 4°18          | 20°49  | 10°27          | S 18 |
| S 19 | 19 45 11 | 25°47'07         | 29°10           | 9°39          | 11°23            | 20°42          | 19° 9          | 0°35           | 22°55          | 6° 5         | 12°14          | 5°40          | 4°15          | 20°56  | 10°26          | S 19 |
| M20  | 19 49 7  | 26°44'24         | 11 <b>M</b> )17 | 11°26         | 12°21            | 21°20          | 19°14          | 0°40           | 22°58          | 6° 5         | 12°15          | 5°31          | 4°11          | 21° 2  | 10°24          | M20  |
| T 21 | 19 53 4  | 27°41'41         | 23°33           | 13°17         | 13°18            | 21°57          | 19°20          | 0°44           | 23° 1          | 6° 5         | 12°15          | 5°25          | 4° 8          | 21° 9  | 10°22          | T 21 |
| W22  | 19 57 0  | 28°38'59         | 6 <b>♀</b> 2    | 15°10         | 14°15            | 22°35          | 19°27          | 0°49           | 23° 4          | 6° 4         | 12°16          | 5°20          | 4° 5          | 21°16  | 10°20          | W22  |
| T 23 | 20 0 57  | 29°36'17         | 18°46           | 17° 6         | 15°12            | 23°12          | 19°33          | 0°54           | 23° 7          | 6° 4         | 12°16          | 5°18          | 4° 2          | 21°22  | 10°18          | T 23 |
| F 24 | 20 4 53  | 0 <b>ん</b> 33'36 | 1 <b>M</b> .49  | 19° 4         | 16° 8            | 23°50          | 19°39          | 0°59           | 23°10          | 6° 4         | 12°16          | 5°D17         | 3°59          | 21°29  | 10°16          | F 24 |
| S 25 | 20 8 50  | 1°30'55          | 15°14           | 21° 5         | 17° 4            | 24°28          | 19°46          | 1° 3           | 23°13          | 6° 3         | 12°17          | 5°18          | 3°55          | 21°36  | 10°14          | S 25 |
| S 26 | 20 12 46 | 2°28'14          | 29° 4           | 23° 7         | 17°59            | 25° 5          | 19°52          | 1° 8           | 23°16          | 6° 3         | 12°17          | 5°R18         | 3°52          | 21°42  | 10°12          | S 26 |
| M27  | 20 16 43 | 3°25'34          | 13 <b>×</b> 20  | 25°10         | 18°54            | 25°43          | 19°59          | 1°13           | 23°19          | 6° 2         | 12°18          | 5°18          | 3°49          | 21°49  | 10°10          | M27  |
| T 28 | 20 20 40 | 4°22'55          | 28° 0           | 27°15         | 19°48            | 26°21          | 20° 6          | 1°18           | 23°22          | 6° 1         | 12°18          | 5°16          | 3°46          | 21°56  | 10° 7          | T 28 |
| W29  | 20 24 36 | 5°20'16          | 13 <b>る</b> 0   | 29°20         | 20°42            | 26°58          | 20°13          | 1°23           | 23°25          | 6° 1         | 12°18          | 5°12          | 3°43          | 22° 3  | 10° 5          | W29  |
| T 30 | 20 28 33 | 6°17'37          | 28°13           | $1\Omega$ 26  | 21°35            | 27°36          | 20°20          | 1°29           | 23°28          | 6° 0         | 12°19          | 5° 6          | 3°40          | 22° 9  | 10° 3          | T 30 |
| F 31 | 20 32 29 | $7\Omega 15'00$  | 13 <b>≈</b> 28  | 3 <b>Ω</b> 32 | 22 <b>m</b> ) 27 | 28 <b>Ω</b> 14 | 20 <b>≏</b> 27 | 1 <b>≏</b> 34  | 23 <b>Ⅱ</b> 30 | 6 <b>Υ</b> 0 | 12 <b>8</b> 19 | 4 <b>₹</b> 57 | 3 <b>∡</b> 36 | 229516 | 10 <b>米</b> 1  | F 31 |

| Day                        | 0                                | J                             |  | ğ                    | ς   | )                    | ď                       |                                      | 24                                 | ŀ                                    | ħ                                | <u>.</u>             | );                      | f(                       | 卉  | Р                                      | ß                       | U                       | Ç                       | ę,                   |                                      |
|----------------------------|----------------------------------|-------------------------------|--|----------------------|---|----------------------|-------------------------|--------------------------------------|------------------------------------|--------------------------------------|----------------------------------|----------------------|-------------------------|--------------------------|--|--|-------------------------|-------------------------|-------------------------|----------------------|--------------------------------------|
|                            | decl                             | decl lat                      | t d  | lecl lat             | decl  | lat                  | decl l                  | at                                   | decl                               | lat                                  | decl                             | lat                  | decl                    | lat                      | decl lat   | decl lat                               | decl                    | decl                    | decl                    | decl la              | at                                   |
| W 1<br>T 2<br>F 3          | 23n11<br>23 7                    | 18 28 3                       | 2n27 191<br>3 34 19                                | 14 3                 | 59 15n19<br>50 14 55                        | 1n33<br>1 30         | 18 55                   | 1n14<br>1 14                         | 5 s48<br>5 50                      | 1n18<br>1 18                         | 2n22<br>2 21                     | 2 21                 | 23n18<br>23 19          | 0 6                      | 1n 6 1 s27   | 0 27 15 44                             | 21 26                   | 21 10                   | 18 34                   | 2 19                 | 5n36<br>5 36<br>5 37                 |
| F 3<br>S 4                 | 23 2<br>22 58                    | -                             | 4 26 19<br>4 59 19                                 |                      | 40 14 31<br>30 14 6                         | -                    | -                       | 1 14<br>1 14                         | 5 51<br>5 53                       | 1 17<br>1 17                         | 2 19<br>2 18                     |                      | 23 19<br>23 19          |                          | 1 6 1 27<br>1 6 1 27                                     |  |                         |                         | 18 32                   |                      | 5 37                                 |
| S 5<br>M 6<br>T 7<br>W 8   | 22 52<br>22 47<br>22 41<br>22 35 | 0n17 5<br>5 21 4              | 5 11 19<br>5 4 20<br>4 39 20<br>4 0 20             | 6 3<br>21 2          | 20 13 41<br>8 13 16<br>57 12 50<br>44 12 25 |                      | 18 13<br>18 2           | 1 13<br>1 13<br>1 13<br>1 13         | 5 54<br>5 56<br>5 58<br>5 59       | 1 17<br>1 17<br>1 16<br>1 16         | 2 16<br>2 15<br>2 13<br>2 12     | 2 20<br>2 20         |                         | 0 6<br>0 6               | 1 6 1 27<br>1 6 1 27<br>1 6 1 27<br>1 6 1 27             | 0 27 15 45<br>0 27 15 45               | 21 23<br>21 22          | 21 8<br>21 7            |                         | 2 20<br>2 20         | 5 37<br>5 37<br>5 37<br>5 38         |
| S 11                       | 22 13                            | 17 23<br>19 50                | 3 9 20<br>2 11 21<br>1 7 21                        | 6 2<br>20 2          | 32 11 59<br>19 11 33<br>6 11 7              | 0 59<br>0 55         | 17 40<br>17 28<br>17 17 | 1 12<br>1 12<br>1 12                 | 6 1<br>6 3<br>6 5                  | 1 16<br>1 16<br>1 15                 | 2 10<br>2 9<br>2 7               | 2 20<br>2 19         | 23 20<br>23 20<br>23 21 | 0 6<br>0 6               | 1 6 1 27<br>1 6 1 27<br>1 6 1 27                         | 0 27 15 46<br>0 26 15 47               | 21 23 21 23             | 21 6<br>21 6<br>21 5    | 18 23<br>18 21<br>18 20 | 2 21<br>2 21         | 5 38<br>5 38<br>5 38                 |
| _                          | 21 57                            | 21 52 1<br>21 24 2<br>19 59 2 | 0 2 21<br>1 s 2 21<br>2 3 22<br>2 59 22<br>3 46 22 | 48 1<br>1 1<br>13 1  |   | 0 36                 | 16 54<br>16 42<br>16 31 | 1 12<br>1 11<br>1 11<br>1 11<br>1 11 | 6 7<br>6 9<br>6 11<br>6 13<br>6 15 | 1 15<br>1 15<br>1 15<br>1 14<br>1 14 | 2 5<br>2 3<br>2 2<br>2 0<br>1 58 | 2 19<br>2 19<br>2 19 | 23 21                   | 0 6<br>0 6<br>0 6<br>0 6 | 1 6 1 27<br>1 6 1 27<br>1 6 1 27<br>1 5 1 27<br>1 5 1 27 | 0 26 15 47<br>0 26 15 47<br>0 26 15 48 | 21 23                   | 21 4<br>21 3<br>21 3    | 18 17<br>18 15          | 2 22<br>2 23<br>2 23 | 5 39<br>5 39<br>5 39<br>5 39<br>5 39 |
|                            | 21 21<br>21 11                   |                               | 4 24 22<br>4 51 22                                 | 41 0                 | 45 8 26<br>32 7 59                          | 0 26<br>0 20         |                         | 1 10<br>1 10                         | 6 18<br>6 20                       | 1 14<br>1 14                         | 1 56<br>1 54                     | 2 18<br>2 18         | 23 22<br>23 22          |                          | 1 5 1 27<br>1 5 1 27                                     |  |                         |                         | 18 10<br>18 9           |                      | 5 40<br>5 40                         |
| S 19<br>M20<br>T 21<br>W22 | 21 0<br>20 49<br>20 38<br>20 27  | 2 38 5<br>1 s 5 4             | 5 5 22<br>5 5 22<br>4 51 22<br>4 24 22             | 51 0<br>53 0r        | 19 7 32<br>7 7 5<br>5 6 37<br>17 6 10       | 0 3                  | 15 30<br>15 18          | 1 10<br>1 10<br>1 9<br>1 9           | 6 22<br>6 25<br>6 27<br>6 30       | 1 13<br>1 13<br>1 13<br>1 13         | 1 52<br>1 50<br>1 48<br>1 46     | 2 18<br>2 17         | 23 22                   | 0 6<br>0 6               | 1 5 1 28<br>1 5 1 28<br>1 4 1 28<br>1 4 1 28             | 0 25 15 49<br>0 25 15 49               | 21 14<br>21 13          | 21 0<br>20 59           | 18 4                    | 2 25<br>2 26         | 5 40<br>5 40<br>5 40<br>5 41         |
| T 23<br>F 24<br>S 25       | 19 50                            | 14 46<br>18 6                 | 3 43 22<br>2 50 22<br>1 46 22                      | 44 0<br>36 0         | 38 5 15<br>48 4 47                          | 0 15<br>0 21         | 14 40<br>14 27          | 1 9<br>1 8<br>1 8                    | 6 32<br>6 35<br>6 37               | 1 12<br>1 12<br>1 12                 | 1 44<br>1 42<br>1 40             | 2 17<br>2 17         | 23 23<br>23 23          | 0 6<br>0 6               | 1 4 1 28<br>1 4 1 28<br>1 4 1 28                         | 0 25 15 50<br>0 25 15 51               | 21 12                   | 20 58<br>20 57          | 17 59<br>17 58          | 2 28 2 28            | 5 41<br>5 41<br>5 41                 |
| S 26<br>M27<br>T 28<br>W29 | 19 24<br>19 11<br>18 57          | 21 42 (<br>21 28 1<br>19 43 3 | 0 33 22<br>0n43 22<br>1 58 21<br>3 7 21            | 11 1<br>55 1<br>37 1 | 6 3 52<br>13 3 25<br>20 2 57                | 0 34<br>0 41<br>0 48 | 14 1<br>13 48<br>13 35  | 1 8<br>1 8<br>1 7<br>1 7             | 6 40<br>6 43<br>6 46<br>6 49       | 1 12<br>1 11<br>1 11<br>1 11         | 1 38<br>1 36<br>1 34<br>1 32     | 2 16<br>2 16<br>2 16 | 23 24<br>23 24          | 0 6<br>0 6<br>0 6        | 1 3 1 28<br>1 3 1 28<br>1 3 1 28<br>1 3 1 28             | 0 24 15 51<br>0 24 15 51<br>0 24 15 52 | 21 12<br>21 12<br>21 11 | 20 56<br>20 55<br>20 55 | 17 54<br>17 53<br>17 51 | 2 30<br>2 30<br>2 31 | 5 41<br>5 41<br>5 41<br>5 42         |
| T 30<br>F 31               |                                  |                               | 4 4 21<br>4n43 20                                  | -                    | 26 2 30<br>31 2n 3                          | 0 55<br>1s 2         |                         | 1 7<br>1n 6                          | 6 52<br>6s54                       | 1 11<br>1n10                         | 1 29<br>1n27                     |                      | 23 24<br>23n24          |                          | 1 2 1 28<br>1n 2 1 s28                                   |  |                         |                         |                         | -                    | 5 42<br>5n42                         |

Julian Day Number = 2401687.5, Delta T = 8.86 sec Ecliptic obliquity =  $23^{\circ}27'21$ , Nutation =  $0^{\circ}00'16$ , out-of-bounds declination in red Ayanamsha: Fagan/Bradley =  $22^{\circ}50'03$ , Lahiri =  $21^{\circ}57'03$ 

**AUGUST 1863** 00:00 UT

|      |          | •                  |                 |                 |                |                |                |               |       |               |                |               |                |        |               |      |
|------|----------|--------------------|-----------------|-----------------|----------------|----------------|----------------|---------------|-------|---------------|----------------|---------------|----------------|--------|---------------|------|
| Day  | Sid.t    | 0                  | D               | ğ               | φ              | ď              | 4              | ħ             | )∤(   | ¥             | Р              | ស             | S              | Ç      | ę,            | Day  |
| S 1  | 20 36 26 | 8 <b>Q</b> 12'23   | 28≈35           | 5 <b>Ω</b> 37   | 23 <b>m</b> 19 | 28 <b>N</b> 52 | 20 <b>ჲ</b> 35 | 1 <b>≏</b> 39 | 23耳33 | 5°R59         | 12819          | 4°R48         | 3 <b>∡</b> 733 | 22923  | 9°R58         | S 1  |
| S 2  | 20 40 22 | 9° 9'47            | 13 <b>)</b> 24  | 7°43            | 24°10          | 29°29          | 20°42          | 1°45          | 23°36 | 5 <b>Υ</b> 58 | 12°19          | 4 <b>₹</b> 39 | 3°30           | 22°29  | 9 <b>∺</b> 56 | S 2  |
| M 3  | 20 44 19 | 10° 7'13           | 27°48           | 9°48            | 25° 1          | 0Mp 7          | 20°50          | 1°50          | 23°39 | 5°57          | 12°19          | 4°31          | 3°27           | 22°36  | 9°53          | M 3  |
| T 4  | 20 48 15 | 11° 4'39           | 11 <b>Y</b> 42  | 11°51           | 25°50          | 0°45           | 20°58          | 1°56          | 23°41 | 5°57          | 12°20          | 4°26          | 3°24           | 22°43  | 9°51          | T 4  |
| W 5  | 20 52 12 | 12° 2'07           | 25° 7           | 13°54           | 26°40          | 1°23           | 21° 6          | 2° 1          | 23°44 | 5°56          | 12°20          | 4°23          | 3°21           | 22°49  | 9°49          | W 5  |
| T 6  | 20 56 8  | 12°59'36           | 8 <b>8</b> 4    | 15°56           | 27°28          | 2° 1           | 21°14          | 2° 7          | 23°47 | 5°55          | 12°20          | 4°D21         | 3°17           | 22°56  | 9°46          | T 6  |
| F 7  | 21 0 5   | 13°57'07           | 20°38           | 17°57           | 28°16          | 2°38           | 21°22          | 2°12          | 23°49 | 5°54          | 12°20          | 4°21          | 3°14           | 23° 3  | 9°44          | F 7  |
| S 8  | 21 4 2   | 14°54'38           | 2Д53            | 19°57           | 29° 3          | 3°16           | 21°30          | 2°18          | 23°52 | 5°53          | 12°20          | 4°R22         | 3°11           | 23° 9  | 9°41          | S 8  |
| S 9  | 21 7 58  | 15°52'12           | 14°55           | 21°55           | 29°49          | 3°54           | 21°39          | 2°24          | 23°54 | 5°52          | 12°20          | 4°21          | 3° 8           | 23°16  | 9°38          | S 9  |
| M10  | 21 11 55 | 16°49'46           | 26°48           | 23°52           | 0 <b>ჲ</b> 34  | 4°32           | 21°47          | 2°30          | 23°57 | 5°51          | 12°20          | 4°19          | 3° 5           | 23°23  | 9°36          | M10  |
| T 11 | 21 15 51 | 17°47'22           | 8937            | 25°47           | 1°18           | 5°10           | 21°56          | 2°36          | 23°59 | 5°51          | 12°20          | 4°14          | 3° 1           | 23°30  | 9°33          | T 11 |
| W12  | 21 19 48 | 18°45'00           | 20°26           | 27°41           | 2° 2           | 5°48           | 22° 4          | 2°42          | 24° 2 | 5°50          | 12°20          | 4° 7          | 2°58           | 23°36  | 9°31          | W12  |
| T 13 | 21 23 44 | 19°42'38           | 2 <b>Ω</b> 17   | 29°33           | 2°44           | 6°26           | 22°13          | 2°48          | 24° 4 | 5°49          | 12°R20         | 3°57          | 2°55           | 23°43  | 9°28          | T 13 |
| F 14 | 21 27 41 | 20°40'18           | 14°12           | 1 <b>m</b> ) 24 | 3°26           | 7° 4           | 22°22          | 2°54          | 24° 6 | 5°47          | 12°20          | 3°45          | 2°52           | 23°50  | 9°25          | F 14 |
| S 15 | 21 31 38 | 21°38'00           | 26°14           | 3°14            | 4° 7           | 7°42           | 22°31          | 3° 0          | 24° 9 | 5°46          | 12°20          | 3°32          | 2°49           | 23°56  | 9°22          | S 15 |
| S 16 | 21 35 34 | 22°35'42           | 8 <b>m</b> 23   | 5° 2            | 4°46           | 8°20           | 22°40          | 3° 6          | 24°11 | 5°45          | 12°20          | 3°18          | 2°46           | 24° 3  | 9°20          | S 16 |
| M17  | 21 39 31 | 23°33'26           | 20°41           | 6°49            | 5°25           | 8°58           | 22°50          | 3°12          | 24°13 | 5°44          | 12°20          | 3° 6          | 2°42           | 24°10  | 9°17          | M17  |
| T 18 | 21 43 27 | 24°31'11           | 3 <b>॒</b> 7    | 8°34            | 6° 2           | 9°36           | 22°59          | 3°19          | 24°15 | 5°43          | 12°20          | 2°56          | 2°39           | 24°16  | 9°14          | T 18 |
| W19  | 21 47 24 | 25°28'57           | 15°45           | 10°18           | 6°38           | 10°14          | 23° 9          | 3°25          | 24°17 | 5°42          | 12°20          | 2°48          | 2°36           | 24°23  | 9°11          | W19  |
| T 20 | 21 51 20 | 26°26'44           | 28°35           | 12° 0           | 7°13           | 10°53          | 23°18          | 3°31          | 24°19 | 5°41          | 12°20          | 2°43          | 2°33           | 24°30  | 9° 9          | T 20 |
| F 21 | 21 55 17 | 27°24'33           | 11 <b>M</b> .40 | 13°41           | 7°46           | 11°31          | 23°28          | 3°38          | 24°21 | 5°40          | 12°20          | 2°41          | 2°30           | 24°36  | 9° 6          | F 21 |
| S 22 | 21 59 13 | 28°22'22           | 25° 3           | 15°21           | 8°18           | 12° 9          | 23°38          | 3°44          | 24°23 | 5°38          | 12°19          | 2°40          | 2°27           | 24°43  | 9° 3          | S 22 |
| S 23 | 22 3 10  | 29°20'13           | 8 <b>∡</b> 745  | 16°59           | 8°49           | 12°47          | 23°47          | 3°51          | 24°25 | 5°37          | 12°19          | 2°40          | 2°23           | 24°50  | 9° 0          | S 23 |
| M24  | 22 7 6   | 0 <b>m</b> p 18'05 | 22°49           | 18°36           | 9°19           | 13°25          | 23°57          | 3°57          | 24°27 | 5°36          | 12°19          | 2°40          | 2°20           | 24°57  | 8°57          | M24  |
| T 25 | 22 11 3  | 1°15'59            | 7 <b>云</b> 13   | 20°12           | 9°46           | 14° 4          | 24° 7          | 4° 4          | 24°29 | 5°34          | 12°19          | 2°37          | 2°17           | 25° 3  | 8°54          | T 25 |
| W26  | 22 15 0  | 2°13'54            | 21°57           | 21°46           | 10°13          | 14°42          | 24°18          | 4°10          | 24°31 | 5°33          | 12°19          | 2°32          | 2°14           | 25°10  | 8°51          | W26  |
| T 27 | 22 18 56 | 3°11'49            | 6≈54            | 23°19           | 10°37          | 15°20          | 24°28          | 4°17          | 24°33 | 5°32          | 12°18          | 2°24          | 2°11           | 25°17  | 8°49          | T 27 |
| F 28 | 22 22 53 | 4° 9'47            | 21°57           | 24°51           | 11° 0          | 15°58          | 24°38          | 4°24          | 24°35 | 5°30          | 12°18          | 2°14          | 2° 7           | 25°23  | 8°46          | F 28 |
| S 29 | 22 26 49 | 5° 7'45            | 6 <b>¥</b> 55   | 26°21           | 11°21          | 16°37          | 24°48          | 4°31          | 24°36 | 5°29          | 12°18          | 2° 3          | 2° 4           | 25°30  | 8°43          | S 29 |
| S 30 | 22 30 46 | 6° 5'46            | 21°40           | 27°50           | 11°41          | 17°15          | 24°59          | 4°37          | 24°38 | 5°28          | 12°17          | 1°52          | 2° 1           | 25°37  | 8°40          | S 30 |
| M31  | 22 34 42 | 7 <b>m</b> ) 3'48  | 6 <b>℃</b> 3    | 29 <b>m</b> 17  | 11 <b>≏</b> 58 | 17 <b>m</b> 53 | 25 <b>♀</b> 9  | 4 <u>Ω</u> 44 | 24∏39 | 5 <b>Υ</b> 26 | 12 <b>8</b> 17 | 1 <b>才</b> 42 | 1 <b>才</b> 58  | 259643 | 8 <b>)</b> 37 | M31  |

| Day          | 0              | D                      | ğ                        | ·             | ♂                | 4             |              | ħ    | )∤(     |             | 卉                       | Р                        | V               | v      | ¢              | ķ         |              |
|--------------|----------------|------------------------|--------------------------|---------------|------------------|---------------|--------------|------|---------|-------------|-------------------------|--------------------------|-----------------|--------|----------------|-----------|--------------|
|              | decl           | decl lat               | decl lat                 | decl lat de   | cl lat           | decl lat      | dec          | lat  | decl la | at          | decl lat                | decl lat                 | decl            | decl   | decl           | decl      | lat          |
| S 1          | 18n14          | 7s15 5n 2              | 20n25 1n36               | 1n36 1s 9 12r | 55 1n 6          | 6s57 1n1      | 10 1n2:      | 2n16 | 23n24   | 0n 6        | 1n 2 1s28               | 0n23 15 s53              | 21 s 7          | 20 s53 | 17n46          | 2 s33     | 5n42         |
| S 2          | 17 59          |                        | 19 57 1 39               |               |                  |               |              |      |         | 0 6         | 1 1 1 28                | 0 23 15 53               |                 | 20 52  |                | 2 34      | 5 42         |
| M 3          | 17 43          |                        | 19 27 1 42               |               |                  |               |              |      |         | 0 6         | 1 1 1 28                | 0 23 15 53               |                 | 20 52  |                | 2 35      | 5 42         |
| T 4<br>W 5   | 17 28          | 8 21 4 2               |                          |               |                  | 1 ' '  - '    | -            |      |         | 0 6         | 1 1 1 28                | 0 23 15 54<br>0 22 15 54 |                 | 20 51  |                | 2 36      | 5 42         |
| T 6          |                |                        | 18 21 1 46<br>17 45 1 46 |               | 0 1 5<br>46 1 5  |               | 9 1 10       |      |         | 0 6         | 1 0 1 28<br>1 0 1 28    | 0 22 15 54<br>0 22 15 54 |                 | 20 50  | 17 40<br>17 38 | 2 36 2 37 | 5 42<br>5 43 |
| F 7          |                | 19 5 1 12              |                          |               | -                | 7 16 1        | 9 1 1        |      |         | 0 6         | 1 0 1 28                | 0 22 15 55               |                 | 20 49  |                | 2 38      | 5 43         |
| S 8          |                |                        | 16 30 1 45               |               | 19 1 4           |               | 9 1 9        |      |         | 0 6         | 0 59 1 29               | 0 22 15 55               |                 | 20 48  |                | 2 39      | 5 43         |
| S 9          | 16 5           | 21 41 0s56             | 15 51 1 44               | 1 57 2 13 11  | 4 1 4            | 7 23 1        | 9 1 (        | 2 15 | 23 25   | 0 6         | 0 59 1 29               | 0 21 15 55               | 21 2            | 20 48  | 17 33          | 2 40      | 5 43         |
| M10          | 15 48          | 21 29 1 56             | 15 11 1 42               | 2 23 2 21 10  | 50 1 3           | 7 26 1        | 8 1 4        | 2 14 | 23 25   | 0 6         | 0 58 1 29               | 0 21 15 55               | 21 1            | 20 47  | 17 31          | 2 41      | 5 43         |
| T 11         |                | 20 20 2 51             |                          |               |                  | 7 30 1        | 8 1          |      |         | 0 6         | 0 58 1 29               | 0 21 15 56               |                 |        | 17 30          | 2 42      | 5 43         |
| W12          |                |                        |                          |               |                  | 7 33 1        | 8 0 59       |      |         | 0 6         | 0 57 1 29               |                          | 20 59           |        |                | 2 42      | 5 43         |
| T 13<br>F 14 | 14 55          |                        |                          |               | 7 1 2            | 7 37 1        | 8 0 50       |      |         | 0 6         | 0 57 1 29               |                          | 20 57           |        |                | 2 43      | 5 43         |
| S 15         | 14 37<br>14 18 | -                      | 12 22 1 29<br>11 39 1 25 |               | 53 1 2<br>39 1 2 | 7 40 1        | 8 0 54       |      |         | 0 6         | 0 57 1 29<br>0 56 1 29  | 0 20 15 57<br>0 20 15 57 |                 |        |                | 2 44 2 45 | 5 43         |
|              |                |                        |                          |               |                  |               |              |      |         |             |                         |                          |                 |        |                |           |              |
| S 16<br>M17  | 14 0           |                        | 10 55 1 20               |               |                  |               | 7 0 49       |      |         | 0 6         | 0 56 1 29               | 0 19 15 57               |                 |        |                | 2 46      | 5 43         |
| T 18         | 13 41<br>13 21 | 0s42 4 47<br>5 13 4 20 |                          |               | 9 1 1<br>55 1 1  | 7 51 1 7 54 1 | 7 0 40       |      |         | 0 7<br>0 7  | 0 55 1 29<br>0 55 1 29  | 0 19 15 58<br>0 19 15 58 |                 |        |                | 2 47 2 48 | 5 43         |
| W19          | 13 21          | 9 36 3 41              |                          |               |                  | 7 58 1        | 7 0 4        |      |         | 0 7         | 0 54 1 29               | 0 19 15 58               |                 |        |                | 2 49      | 5 43         |
| T 20         |                |                        |                          |               |                  |               | 6 0 3        |      |         | 0 7         | 0 54 1 29               | 0 18 15 58               |                 |        |                | 2 50      | 5 43         |
| F 21         | 12 23          | 17 4 1 49              | 7 12 0 51                | 6 48 4 3 8    | 10 1 0           | 8 6 1         | 6 0 30       | 2 13 | 23 27   | 0 7         | 0 53 1 29               | 0 18 15 59               | 20 43           | 20 40  | 17 13          | 2 51      | 5 43         |
| S 22         | 12 3           | 19 41 0 40             | 6 27 0 44                | 7 10 4 13 7   | 56 1 0           | 8 9 1         | 6 0 33       | 2 13 | 23 27   | 0 7         | 0 53 1 29               | 0 17 15 59               | 20 43           | 20 40  | 17 11          | 2 52      | 5 43         |
| S 23         | 11 43          | 21 15 0n32             | 5 43 0 37                | 7 31 4 23 7   | 41 0 59          | 8 13 1        | 6 0 30       | 2 13 | 23 27   | 0 7         | 0 52 1 29               | 0 17 15 59               | 20 43           | 20 39  | 17 9           | 2 53      | 5 43         |
| M24          | 11 22          | 21 31 1 44             | 4 58 0 30                | 7 52 4 33 7   | 26 0 59          | 8 17 1        | 6 0 28       | 2 13 | 23 27   | 0 7         | 0 52 1 29               | 0 17 16 0                | 20 42           | 20 39  | 17 8           | 2 55      | 5 43         |
| T 25         |                | -                      |                          |               |                  | _             | 6 0 2        | _    |         | 0 7         | 0 51 1 29               |                          | 20 42           |        |                | 2 56      | 5 43         |
| W26          | 10 41          |                        |                          |               |                  |               | 5 0 22       |      |         | 0 7         | 0 50 1 29               |                          | 20 41           |        |                | 2 57      | 5 43         |
| T 27         |                |                        |                          |               |                  |               | 5 0 19       |      |         | 0 7         | 0 50 1 29               |                          | 20 39           |        |                | 2 58      | 5 43         |
| F 28<br>S 29 | 9 59<br>9 38   | 9 32 4 56<br>4 20 4 59 |                          |               |                  |               | 5 0 1        |      |         | 0 7<br>0 7  | 0 49 1 29<br>0 49 1 29  |                          | 20 37<br>20 35  |        |                | 2 59      | 5 43<br>5 43 |
|              |                |                        |                          |               |                  |               |              |      |         |             |                         |                          |                 |        |                |           |              |
| S 30<br>M31  | 9 17<br>8n55   | 1n 2 4 43<br>6n13 4n 9 |                          |               |                  |               | 5 0 1 5 0n 8 |      |         | 0 7<br>0n 7 | 0 48 1 29<br>0n48 1 s29 | 0 14 16 1<br>0n14 16s 2  | 20 33<br>20 s31 |        |                |           | 5 43<br>5n43 |

Julian Day Number = 2401718.5, Delta T = 8.84 sec Ecliptic obliquity =  $23^{\circ}27'21$ , Nutation =  $0^{\circ}00'17$ , out-of-bounds declination in red Ayanamsha: Fagan/Bradley =  $22^{\circ}50'07$ , Lahiri =  $21^{\circ}57'07$ 

SEPTEMBER 1863 00:00 UT

| Day  | Sid.t    | 0                | D               | ğ              | φ              | ♂               | 4              | ħ             | )ұ(            | ¥             | В              | u               | S              | ţ      | ę,              | Day  |
|------|----------|------------------|-----------------|----------------|----------------|-----------------|----------------|---------------|----------------|---------------|----------------|-----------------|----------------|--------|-----------------|------|
| T 1  | 22 38 39 | 8 Mp 1'52        | 20 <b>Y</b> 0   | 0 <b>ჲ</b> 43  | 12 <b>≏</b> 14 | 18 <b>m</b> /32 | 25 <b>♀</b> 20 | 4 <b>₽</b> 51 | 24∏41          | 5°R25         | 12°R16         | 1°R35           | 1 <b>∡</b> 755 | 25950  | 8°R34           | T 1  |
| W 2  | 22 42 35 | 8°59'58          | 3 <b>8</b> 28   | 2° 8           | 12°28          | 19°10           | 25°31          | 4°58          | 24°43          | 5 <b>℃</b> 23 | 12816          | 1 <b>₹</b> 30   | 1°52           | 25°57  | 8 <b>)</b> (31  | W 2  |
| T 3  | 22 46 32 | 9°58'05          | 16°29           | 3°31           | 12°39          | 19°49           | 25°42          | 5° 5          | 24°44          | 5°22          | 12°16          | 1°28            | 1°48           | 26° 3  | 8°28            | T 3  |
| F 4  | 22 50 29 | 10°56'15         | 29° 5           | 4°53           | 12°49          | 20°27           | 25°52          | 5°12          | 24°45          | 5°21          | 12°15          | 1°D27           | 1°45           | 26°10  | 8°25            | F 4  |
| S 5  | 22 54 25 | 11°54'27         | 11 <b>II</b> 22 | 6°14           | 12°56          | 21° 6           | 26° 3          | 5°19          | 24°47          | 5°19          | 12°15          | 1°R27           | 1°42           | 26°17  | 8°22            | S 5  |
| S 6  | 22 58 22 | 12°52'41         | 23°24           | 7°33           | 13° 1          | 21°44           | 26°14          | 5°26          | 24°48          | 5°18          | 12°14          | 1°27            | 1°39           | 26°24  | 8°19            | S 6  |
| M 7  | 23 2 18  | 13°50'57         | 59918           | 8°50           | 13° 4          | 22°23           | 26°26          | 5°33          | 24°49          | 5°16          | 12°14          | 1°25            | 1°36           | 26°30  | 8°17            | M 7  |
| T 8  | 23 6 15  | 14°49'15         | 17° 7           | 10° 6          | 13°R 5         | 23° 1           | 26°37          | 5°40          | 24°51          | 5°15          | 12°13          | 1°21            | 1°32           | 26°37  | 8°14            | T 8  |
| W 9  | 23 10 11 | 15°47'35         | 28°57           | 11°20          | 13° 3          | 23°40           | 26°48          | 5°47          | 24°52          | 5°13          | 12°13          | 1°14            | 1°29           | 26°44  | 8°11            | W 9  |
| T 10 | 23 14 8  | 16°45'57         | 10 <b>Ω</b> 52  | 12°33          | 12°59          | 24°19           | 26°59          | 5°54          | 24°53          | 5°11          | 12°12          | 1° 4            | 1°26           | 26°50  | 8° 8            | T 10 |
| F 11 | 23 18 4  | 17°44'21         | 22°54           | 13°43          | 12°53          | 24°57           | 27°11          | 6° 1          | 24°54          | 5°10          | 12°12          | 0°53            | 1°23           | 26°57  | 8° 5            | F 11 |
| S 12 | 23 22 1  | 18°42'46         | 5 Mg 5          | 14°52          | 12°44          | 25°36           | 27°22          | 6° 8          | 24°55          | 5° 8          | 12°11          | 0°40            | 1°20           | 27° 4  | 8° 2            | S 12 |
| S 13 | 23 25 58 | 19°41'14         | 17°26           | 15°58          | 12°33          | 26°15           | 27°34          | 6°15          | 24°56          | 5° 7          | 12°10          | 0°27            | 1°17           | 27°10  | 7°59            | S 13 |
| M14  | 23 29 54 | 20°39'44         | 29°59           | 17° 3          | 12°20          | 26°54           | 27°45          | 6°23          | 24°57          | 5° 5          | 12°10          | 0°16            | 1°13           | 27°17  | 7°57            | M14  |
| T 15 | 23 33 51 | 21°38'15         | 12 <b>≏</b> 42  | 18° 5          | 12° 4          | 27°32           | 27°57          | 6°30          | 24°58          | 5° 3          | 12° 9          | 0° 6            | 1°10           | 27°24  | 7°54            | T 15 |
| W16  | 23 37 47 | 22°36'49         | 25°37           | 19° 5          | 11°46          | 28°11           | 28° 9          | 6°37          | 24°59          | 5° 2          | 12° 8          | 29 <b>IL</b> 59 | 1° 7           | 27°31  | 7°51            | W16  |
| T 17 | 23 41 44 | 23°35'24         | 8 <b>M</b> .43  | 20° 2          | 11°26          | 28°50           | 28°20          | 6°44          | 24°59          | 5° 0          | 12° 8          | 29°54           | 1° 4           | 27°37  | 7°48            | T 17 |
| F 18 | 23 45 40 | 24°34'01         | 22° 0           | 20°56          | 11° 3          | 29°29           | 28°32          | 6°52          | 25° 0          | 4°59          | 12° 7          | 29°52           | 1° 1           | 27°44  | 7°45            | F 18 |
| S 19 | 23 49 37 | 25°32'39         | 5 <b>₹</b> 30   | 21°48          | 10°38          | 0 <b>亚</b> 8    | 28°44          | 6°59          | 25° 1          | 4°57          | 12° 6          | 29°D52          | 0°58           | 27°51  | 7°43            | S 19 |
| S 20 | 23 53 33 | 26°31'19         | 19°13           | 22°36          | 10°12          | 0°47            | 28°56          | 7° 6          | 25° 1          | 4°55          | 12° 6          | 29°53           | 0°54           | 27°57  | 7°40            | S 20 |
| M21  | 23 57 30 | 27°30'01         | 3 <b>ਰ</b> 11   | 23°20          | 9°43           | 1°26            | 29° 8          | 7°14          | 25° 2          | 4°54          | 12° 5          | 29°R53          | 0°51           | 28° 4  | 7°37            | M21  |
| T 22 | 0 1 27   | 28°28'45         | 17°23           | 24° 1          | 9°13           | 2° 5            | 29°20          | 7°21          | 25° 2          | 4°52          | 12° 4          | 29°51           | 0°48           | 28°11  | 7°35            | T 22 |
| W23  | 0 5 23   | 29°27'30         | 1≈48            | 24°38          | 8°41           | 2°44            | 29°32          | 7°28          | 25° 3          | 4°50          | 12° 3          | 29°47           | 0°45           | 28°17  | 7°32            | W23  |
| T 24 | 0 9 20   | 0 <b>≏</b> 26'17 | 16°22           | 25°10          | 8° 8           | 3°23            | 29°44          | 7°36          | 25° 3          | 4°49          | 12° 3          | 29°41           | 0°42           | 28°24  | 7°29            | T 24 |
| F 25 | 0 13 16  | 1°25'06          | 1 <b>∺</b> 0    | 25°37          | 7°33           | 4° 2            | 29°57          | 7°43          | 25° 4          | 4°47          | 12° 2          | 29°33           | 0°38           | 28°31  | 7°27            | F 25 |
| S 26 | 0 17 13  | 2°23'56          | 15°36           | 26° 0          | 6°58           | 4°41            | OM 9           | 7°50          | 25° 4          | 4°45          | 12° 1          | 29°24           | 0°35           | 28°38  | 7°24            | S 26 |
| S 27 | 0 21 9   | 3°22'49          | 0 <b>Υ</b> 2    | 26°16          | 6°22           | 5°20            | 0°21           | 7°58          | 25° 4          | 4°44          | 12° 0          | 29°15           | 0°32           | 28°44  | 7°22            | S 27 |
| M28  | 0 25 6   | 4°21'43          | 14°12           | 26°27          | 5°45           | 5°59            | 0°33           | 8° 5          | 25° 4          | 4°42          | 11°59          | 29° 8           | 0°29           | 28°51  | 7°19            | M28  |
| T 29 | 0 29 2   | 5°20'39          | 28° 0           | 26°R31         | 5° 8           | 6°38            | 0°46           | 8°12          | 25° 5          | 4°40          | 11°58          | 29° 2           | 0°26           | 28°58  | 7°17            | T 29 |
| W30  | 0 32 59  | 6 <b>₽</b> 19'38 | 11824           | 26 <b>≏</b> 29 | 4 <b>≏</b> 31  | 7 <b>₽</b> 17   | 0 <b>M</b> .58 | 8 <b>亞</b> 20 | 25 <b>II</b> 5 | 4 <b>Υ</b> 39 | 11 <b>8</b> 57 | 28 <b>M</b> .58 | 0 <b>∡</b> 123 | 2995 4 | 7 <b>) (</b> 14 | W30  |

| Day  | 0     | D        | }            | <b></b> | φ         | ď     | 7    | 2     | ļ.   | ŧ       | 1    | );    | f(   | <del>1</del> 4 | (     | Р          | n      | v     | ţ     | ď     |      |
|------|-------|----------|--------------|---------|-----------|-------|------|-------|------|---------|------|-------|------|----------------|-------|------------|--------|-------|-------|-------|------|
|      | decl  | decl lat | decl         | lat o   | decl lat  | decl  | lat  | decl  | lat  | decl    | lat  | decl  | lat  | decl           | lat   | decl lat   | decl   | decl  | decl  | decl  | lat  |
| T 1  | 8n34  | 10n55 3n | n20 0 s48    | 0s33 10 | )s16 5s55 | 5n24  | 0n56 | 8 s48 | 1n 4 | 0n 6    | 2n12 | 23n28 | 0n 7 | 0n47           | 1 s29 | 0n14 16s 2 | 20 s29 | 20s34 | 16n54 | 3 s 3 | 5n43 |
| W 2  | 8 12  | 14 54 2  | 22 1 29      | 0 41 10 | 31 6 5    | 5 9   | 0 56 | 8 53  | 1 4  | 0 3     | 2 12 | 23 28 | 0 7  | 0 46           | 1 30  | 0 13 16 2  | 20 29  | 20 33 | 16 52 | 3 4   | 5 43 |
| T 3  | 7 50  | 18 2 1   | 18 2 10      | 0 50 10 | 0 45 6 15 | 4 53  | 0 55 | 8 57  | 1 4  | 0 0     | 2 12 | 23 28 | 0 7  | 0 46           | 1 30  | 0 13 16 3  | 20 28  | 20 32 | 16 51 | 3 6   | 5 43 |
| F 4  | 7 28  | 20 10 0  | 13 2 50      | 0 58 10 | 58 6 25   | 4 38  | 0 55 | 9 1   | 1 4  | 0s 3    | 2 12 | 23 28 | 0 7  | 0 45           | 1 30  | 0 13 16 3  | 20 28  | 20 32 | 16 49 | 3 7   | 5 43 |
| S 5  | 7 6   | 21 18 0s | s52 3 30     | 1 7 11  | 10 6 35   | 4 22  | 0 55 | 9 5   | 1 4  | 0 6     | 2 12 | 23 28 | 0 7  | 0 45           | 1 30  | 0 12 16 3  | 20 28  | 20 31 | 16 47 | 3 8   | 5 43 |
| S 6  | 6 44  | 21 24 1  | 54 4 9       | 1 15 11 | 21 6 44   | 4 7   | 0 54 | 9 9   | 1 4  | 0 8     | 2 12 | 23 28 | 0 7  | 0 44           | 1 30  | 0 12 16 3  | 20 28  | 20 30 | 16 45 | 3 9   | 5 43 |
| M 7  | 6 21  | 20 32 2  | 49 4 48      | 1 24 11 | 31 6 54   | 3 51  | 0 54 | 9 13  | 1 3  | 0 11    | 2 12 | 23 28 | 0 7  | 0 43           | 1 30  | 0 11 16 4  | 20 27  | 20 30 | 16 44 | 3 10  | 5 43 |
| T 8  | 5 59  | 18 46 3  | 37 5 25      | 1 33 11 | 40 7 3    | 3 35  | 0 54 | 9 17  | 1 3  | 0 14    |      |       | 0 7  | 0 43           | 1 30  |            | 20 27  |       |       | 3 11  | 5 43 |
| W 9  | 5 36  | -        | 15 6 2       |         | 47 7 12   | 3 20  | 0 53 | 9 21  | 1 3  | 0 17    |      |       |      | 0 42           | 1 30  | 0 11 16 4  | 20 25  |       |       | 3 13  | 5 42 |
| T 10 | 5 14  |          | 43 6 38      |         | 54 7 21   | 3 4   | 0 53 | 9 26  | 1 3  | 0 20    |      |       |      | 0 41           | 1 30  | 0 10 16 4  |        |       |       | 3 14  | 5 42 |
| F 11 | 4 51  |          | 58 7 14      |         | 59 7 30   | 2 48  | 0 52 | 9 30  | 1 3  | 0 23    | 2 12 |       |      | 0 41           | 1 30  |            | 20 21  |       |       | 3 15  | 5 42 |
| S 12 | 4 28  | 5 0 5    | 0 7 48       | 2 6 12  | 2 3 7 38  | 2 33  | 0 52 | 9 34  | 1 3  | 0 26    | 2 12 | 23 28 | 0 7  | 0 40           | 1 30  | 0 9 16 5   | 20 18  | 20 26 | 16 35 | 3 16  | 5 42 |
| S 13 | 4 5   | 0 32 4   | 48 8 21      | 2 14 12 | 2 6 7 46  | 2 17  | 0 52 | 9 38  | 1 3  | 0 28    | 2 12 | 23 28 | 0 7  | 0 40           | 1 30  | 0 9 16 5   | 20 16  | 20 26 | 16 33 | 3 17  | 5 42 |
| M14  | 3 42  | 4s 0 4   | 22 8 53      | 2 22 12 | 2 8 7 53  | 2 1   | 0 51 | 9 43  | 1 2  | 0 31    | 2 11 | 23 28 | 0 7  | 0 39           | 1 30  | 0 9 16 5   | 20 13  | 20 25 | 16 31 | 3 18  | 5 42 |
| T 15 | 3 19  | 8 26 3   | 43 9 25      | 2 30 12 | 2 8 8 0   | 1 45  | 0 51 | 9 47  | 1 2  | 0 34    | 2 11 | 23 29 | 0 7  | 0 38           | 1 30  | 0 8 16 6   | 20 11  | 20 25 | 16 30 | 3 20  | 5 42 |
| W16  | 2 56  | 12 34 2  | 51 9 55      | 2 38 12 | 2 6 8 6   | 1 30  | 0 51 | 9 51  | 1 2  | 0 37    | 2 11 | 23 29 | 0 7  | 0 38           | 1 30  | 0 8 16 6   | 20 10  | 20 24 | 16 28 | 3 21  | 5 42 |
| T 17 | 2 33  | 16 9 1   | 50 10 23     | - 1     |           | 1 14  | 0 50 | 9 55  | 1 2  | 0 40    |      |       | 0 7  | 0 37           | 1 30  | 0 7 16 6   | 20 9   | 20 23 | 16 26 | 3 22  | 5 41 |
| F 18 | 2 10  | 18 57 0  | 42 10 50     | 2 53 11 | 59 8 17   | 0 58  | 0 50 | 10 0  | 1 2  | 0 43    | 2 11 | 23 29 | 0 7  | 0 36           | 1 30  | 0 7 16 6   | 20 8   | 20 23 | 16 24 | 3 23  | 5 41 |
| S 19 | 1 46  | 20 45 On | n30 11 16    | 3 0 11  | 53 8 21   | 0 42  | 0 49 | 10 4  | 1 2  | 0 46    | 2 11 | 23 29 | 0 7  | 0 36           | 1 30  | 0 6 16 7   | 20 8   | 20 22 | 16 23 | 3 24  | 5 41 |
| S 20 | 1 23  | 21 20 1  | 41 11 40     | 3 6 11  | 46 8 25   | 0 26  | 0 49 | 10 8  | 1 2  | 0 49    | 2 11 | 23 29 | 0 7  | 0 35           | 1 30  | 0 6 16 7   | 20 8   | 20 21 | 16 21 | 3 25  | 5 41 |
| M21  | 1 0   | 20 37 2  | 48 12 3      | 3 12 11 | 37 8 28   | 0 10  | 0 49 | 10 13 | 1 2  | 0 52    | 2 11 | 23 29 | 0 7  | 0 34           | 1 30  | 0 6 16 7   | 20 8   | 20 21 | 16 19 | 3 26  | 5 41 |
| T 22 | 0 36  | 18 36 3  | 45 12 23     | 3 18 11 | 27 8 30   | 0 s 5 | 0 48 | 10 17 | 1 1  | 0 54    | 2 11 | 23 29 | 0 7  | 0 34           | 1 30  | 0 5 16 7   | 20 8   | 20 20 | 16 17 | 3 28  | 5 41 |
| W23  | 0 13  | 15 24 4  | 29 12 42     | 3 23 11 | 16 8 31   | 0 21  | 0 48 | 10 22 | 1 1  | 0 57    | 2 11 | 23 29 | 0 7  | 0 33           | 1 30  | 0 5 16 7   | 20 7   | 20 19 | 16 16 | 3 29  | 5 40 |
| T 24 | 0s10  | 11 13 4  | 57 12 58     | 3 28 11 | 3 8 31    | 0 37  | 0 47 | 10 26 | 1 1  | 1 0     | 2 11 | 23 29 | 0 7  | 0 32           | 1 30  | 0 4 16 8   | 20 6   | 20 19 | 16 14 | 3 30  | 5 40 |
| F 25 | 0 34  | 6 22 5   | 5 13 12      | 3 32 10 | 8 31      | 0 53  | 0 47 | 10 30 | 1 1  | 1 3     | 2 11 | 23 29 | 0 7  | 0 32           | 1 30  | 0 4 16 8   | 20 4   | 20 18 | 16 12 | 3 31  | 5 40 |
| S 26 | 0 57  | 1 11 4   | 53 13 24     | 3 36 10 | 33 8 29   | 1 9   | 0 47 | 10 35 | 1 1  | 1 6     | 2 11 | 23 29 | 0 7  | 0 31           | 1 30  | 0 3 16 8   | 20 2   | 20 17 | 16 10 | 3 32  | 5 40 |
| S 27 | 1 21  | 4n 1 4   | 22 13 32     | 3 39 10 | 17 8 27   | 1 25  | 0 46 | 10 39 | 1 1  | 1 9     | 2 11 | 23 29 | 0 7  | 0 30           | 1 30  | 0 3 16 8   | 20 0   | 20 17 | 16 8  | 3 33  | 5 40 |
| M28  | 1 44  | 8 55 3   | 36 13 38     | 3 40 9  | 59 8 23   | 1 41  | 0 46 | 10 44 | 1 1  | 1 12    | 2 11 | 23 29 | 0 7  | 0 30           | 1 30  | 0 3 16 8   | 19 59  | 20 16 | 16 7  | 3 34  | 5 39 |
| T 29 | 2 7   | 13 14 2  | 38 13 40     | 3 41 9  | 9 40 8 19 | 1 57  | 0 45 | 10 48 | 1 1  | 1 15    | 2 11 | 23 29 | 0 7  | 0 29           | 1 30  | 0 2 16 9   | 19 57  | 20 15 | 16 5  | 3 36  | 5 39 |
| W30  | 2 s31 | 16n44 1n | n33   13 s39 | 3 s41 9 | 9s21 8s14 | 2 s12 | 0n45 | 10s52 | 1n 1 | 1 s 1 8 | 2n11 | 23n29 | 0n 7 | 0n28           | 1 s30 | 0n 2 16s 9 | 19 s57 | 20s15 | 16n 3 | 3 s37 | 5n39 |

Julian Day Number = 2401749.5, Delta T = 8.82 sec Ecliptic obliquity =  $23^{\circ}27'21$ , Nutation =  $0^{\circ}00'16$ , out-of-bounds declination in red Ayanamsha: Fagan/Bradley =  $22^{\circ}50'11$ , Lahiri =  $21^{\circ}57'12$ 

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| $ \begin{array}{ c c c c c c c c c c c c c c c c c c c$  | Day  | Sid.t   |          | 7        | ×     | 0     | 7     | <b>)</b> , | +     | <b>λ</b> τ/ | ),(          | D     | 0     | ດ     | •     | K    | Day  |
|--|------|---------|----------|----------|-------|-------|-------|------------|-------|-------------|--------------|-------|-------|-------|-------|------|------|
| $ \begin{array}{c ccccccccccccccccccccccccccccccccccc$   |      |         | 0        | <u>D</u> | ğ     | ·     | ♂     | 4          | ħ     | )∤(         | #            | В     | T.    |       | Ç     | ķ    | ,    |
| S 3       0.44.49       9°1648       19°22       25°36       2°43       9°15       1°36       8°42       25° 5       4°34       11°55       28°58       0°13       29°24       7° 7       S         S 4       0.48.45       10°15'56       1926       25° 3       2° 8       9°55       1°48       8°49       25° 4       4°30       11°54       28°59       0°10       29°31       7° 5       5         M 5       0.52.42       11°15'06       13°22       24°23       1°35       10°34       2° 1       8°57       25° 4       4°30       11°53       28°85       0° 3       29°38       7° 3       7° 5       8         W 7       1.035       13°13'33       70.5       22°39       0°32       11°53       2°26       9°12       25° 4       4°27       11°51       28°55       0° 0       29°51       6°58       N         T 8       1.431       14°12'50       19° 2       21°38       0° 3       12°32       2°39       9°19       25° 3       4°25       11°50       28°50       29¶51       6°56       F       9       1.828       15°10°9       18° 9       28°49       13°12       2°52       9°26       25° 3       4°25  |      |         |          |          | -     |       |       |            | -     |             |              |       |       |       | -     |      | T 1  |
| S 4 0 48 45 10°15′56 12©26 25° 3 2° 8 9°55 1°48 8°49 25° 4 4°32 11°54 28°59 0°10 29°31 7° 5 8 M 5 0 52 42 11°15′06 13°22 24°23 1°35 10°34 2° 1 8°57 25° 4 4°30 11°53 28°R59 0° 7 29°38 7° 3 1° 1° 6 0 56 38 12°14′18 25°13 23°34 1° 3 11°13 2°14 9° 4 25° 4 4°29 11°52 28°58 0° 3 29°45 7° 0 7 1° 0 7  |      |         |          |          | -     | -     |       |            |       |             |              |       |       |       |       |      | F 2  |
| $\begin{array}{c ccccccccccccccccccccccccccccccccccc$  | S 3  | 0 44 49 | 9°16'48  | 19°22    | 25°36 | 2°43  | 9°15  | 1°36       | 8°42  | 25° 5       | 4°34         | 11°55 | 28°58 | 0°13  | 29°24 | 7° 7 | S 3  |
| $\begin{array}{c ccccccccccccccccccccccccccccccccccc$  | S 4  | 0 48 45 | 10°15'56 | 19926    | 25° 3 | 2° 8  | 9°55  | 1°48       | 8°49  | 25° 4       | 4°32         | 11°54 | 28°59 | 0°10  | 29°31 | 7° 5 | S 4  |
| T 6  |      |         |          |          |       |       |       |            |       |             |              | -     |       |       |       | , -  | M 5  |
| $ \begin{array}{ c c c c c c c c c c c c c c c c c c c$  |      |         |          |          |       |       |       |            |       |             |              |       |       |       |       |      | T 6  |
| T 8 1 4 31 14°12'50 19° 2 21°38 0° 3 12°32 2°39 9°19 25° 3 4°25 11°50 28°50 29°π.57 29°58 6°56 1 F 9 1 8 28 15°12'09 1 m 8 20°31 29 m 37 13°12 2°52 9°26 25° 3 4°24 11°49 28°44 29°54 0Ω 5 6°54 1 8 1 1224 16°11'30 13°27 19°21 29°12 13°51 3° 5 9°34 25° 3 4°22 11°48 28°36 29°51 0°11 6°52 8 1 1 16 21 17°10'54 26° 0 18° 9 28°49 14°31 3°18 9°41 25° 2 4°21 11°47 28°28 29°48 0°18 6°50 8 1 12 24 14 19° 947 21°51 15°47 28°10 15°50 3°43 9°56 25° 1 4°17 11°45 28°15 29°41 0°31 6°46 1 11°41 128 11 20° 947 5 1 15°47 28°10 15°50 3°43 9°56 25° 1 4°17 11°45 28°15 29°41 0°31 6°46 1 11°4 128 11 20° 947 5 1 15°47 28°10 15°50 3°43 9°56 10° 3 25° 0 4°16 11°44 28°11 29°38 0°38 6°44 1 11°41 10°45 28°15 29°41 0°31 6°46 1 11°4 128 11 10°40 1  |      |         |          |          |       |       |       |            |       |             |              | -     |       |       |       |      | W 7  |
| $ \begin{array}{c ccccccccccccccccccccccccccccccccccc$   |      |         |          |          |       |       |       |            |       |             |              | -     |       |       |       |      | T 8  |
| S   10   |      |         |          | -        |       |       | _     |            |       |             |              |       |       |       |       |      | F 9  |
| S11  |      |         |          |          |       |       | -     |            |       |             |              |       |       | -     |       |      | S 10 |
| M12  | S 11 | 1 16 21 |          | 26° 0    | 18° 9 | 28°49 | 14°31 | 3°18       | 9°41  | 25° 2       | 4°21         | 11°47 | 28°28 | 29°48 | 0°18  | 6°50 | S 11 |
| T13  |      | _       |          |          |       |       |       |            |       | -           |              |       | -     |       |       |      | M12  |
| W14  |      |         |          | -        |       |       |       |            |       | -           |              | -     | -     |       |       |      | T 13 |
| T15  |      |         |          | _        |       |       |       |            |       | -           |              | -     |       | -     |       |      | W14  |
| F 16   |      | -       |          |          |       |       |       |            |       |             |              |       | -     |       |       |      | T 15 |
| S 17   |      |         |          |          | -     |       |       |            |       |             |              | -     |       |       |       |      | F 16 |
| $ \begin{array}{c ccccccccccccccccccccccccccccccccccc$   |      |         |          |          | -     |       |       |            | -     |             |              |       | -     | -     |       |      | S 17 |
| $ \begin{array}{ c c c c c c c c c c c c c c c c c c c$  | C 10 | 1 /3 57 | 240 7136 | 0= 3     | 11036 | 27015 | 100 0 | 1018       | 10032 | 24057       | <b>1</b> ° 0 | 11040 | 28011 | 20°25 | 10 5  | 6037 | S 18 |
| $ \begin{array}{c ccccccccccccccccccccccccccccccccccc$   |      |         | ,        |          |       | -,    |       |            |       |             |              | -     | -     |       | _     |      | M19  |
| W21       1 55 47       27° 6'39       12≈28       11° 6       27°11       21° 8       5°27       10°54       24°54       4° 5       11°37       28°12       29°16       1°25       6°32       V         T 22       1 59 43       28° 6'24       26°42       11°18       27°15       21°48       5°40       11° 1       24°53       4° 3       11°35       28°10       29°13       1°32       6°31       7         F 23       2 3 40       29° 6'09       10 €55       11°41       27°21       22°28       5°53       11° 8       24°52       4° 2       11°34       28° 6       29° 9       1°39       6°29       №         S 24       2 7 36       0 mL 5'57       25° 2       12°13       27°29       23° 8       6° 6       11°15       24°51       4° 0       11°33       28° 2       29° 6       1°45       6°28       5   |      |         | , _ ,    | -        |       |       |       |            |       |             |              |       | -     |       |       |      | T 20 |
| T 22       1 59 43       28° 624       26°42       11°18       27°15       21°48       5°40       11° 1       24°53       4° 3       11°35       28°10       29°13       1°32       6°31       7         F 23       2 3 40       29° 6′09       10 €55       11°41       27°21       22°28       5°53       11° 8       24°52       4° 2       11°34       28° 6       29° 9       1°39       6°29       1         S 24       2 7 36       0 IL       5'57       25° 2       12°13       27°29       23° 8       6° 6       11°15       24°51       4° 0       11°33       28° 2       29° 6       1°45       6°28       8   |      |         |          |          | -     |       |       |            | -     |             |              |       |       | -     |       |      | W21  |
| F 23   |      |         |          | _        | -     | -,    |       |            |       | -           |              |       | -     |       |       |      | T 22 |
| S 24   2 7 36   OML 5'57   25° 2   12°13   27°29   23° 8   6° 6   11°15   24°51   4° 0   11°33   28° 2   29° 6   1°45   6°28   5   |      |         |          |          | -     |       |       |            |       |             |              |       |       |       |       |      | F 23 |
|  |      |         |          |          |       |       | -     |            | -     | -           |              | -     |       |       |       |      | S 24 |
| $\begin{bmatrix} 8 & 25 & 2 & 11 & 33 \end{bmatrix} = \begin{bmatrix} 1 & 5 & 146 & 9 & 9 & 0 & 12 & 54 & 27 & 39 & 23 & 48 & 6 & 9 & 11 & 23 & 24 & 50 & 3 & 59 & 11 & 32 & 27 & 58 & 29 & 3 & 1 & 52 & 6 & 626 & 58 & 626$ |      |         |          |          |       |       |       |            |       |             | 2050         |       |       |       | 1050  |      | S 25 |
|  |      |         |          |          | -     |       |       |            |       |             |              | -     |       |       | _     |      | M26  |
|  |      |         |          | _        |       |       | -     |            |       | -           |              |       |       | -     |       |      | T 27 |
|  |      | -       |          | _        |       |       |       |            |       | _           |              |       |       |       |       |      | W28  |
|  |      | -       |          | -        |       |       |       |            |       | _           |              | -     |       |       |       |      | T 29 |
|  |      |         |          |          |       |       |       |            |       |             |              |       |       |       |       |      | F 30 |
|  |      | -       |          |          |       |       |       |            |       |             |              |       |       |       |       |      | S 31 |

| Day  | 0  | D   | ğ  | ·  | ♂   | 4  | ħ  | )Å(  | ¥   | Р   | w v   | Ç   | ķ   |
|--|--|---|--|--|---|--|--|--|---|---|---|---|---|
|  | decl   | decl lat  | decl lat   | decl lat   | decl lat  | decl lat   | decl lat   | decl lat   | decl lat  | decl lat  | decl decl   | decl                                      | decl lat  |
| T 1<br>F 2<br>S 3                                  |  |   | 13 s34 3 s39<br>13 24 3 36<br>13 11 3 31                     | 8 40 8 1   | 2 s28   | 11 1 1 0   | 1 23 2 11  | 23n29 On 7<br>23 29 O 7<br>23 29 O 7             | 0 27 1 30   | 0 1 16 9  | 19 s 56 20 s 14<br>19 56 20 13<br>19 56 20 13   | 15 59                                     | 3 s38 5n39<br>3 39 5 38<br>3 40 5 38  |
| S 4<br>M 5<br>T 6<br>W 7                           | 4 27<br>4 50<br>5 14                                     | 19 12 3 36<br>16 54 4 17<br>13 53 4 47                        |  | 7 35 7 35<br>7 13 7 25<br>6 51 7 14                          | 3 32 0 43<br>3 48 0 42<br>4 3 0 42  | 11 23 1 0  | 1 32 2 11<br>1 35 2 12<br>1 38 2 12  | 23 29 0 7<br>23 29 0 7<br>23 29 0 7              | 0 25 1 30<br>0 24 1 30<br>0 24 1 30   | 0s 0 16 10<br>0 1 16 10<br>0 1 16 10  | 19 57 20 12<br>19 57 20 11<br>19 57 20 11<br>19 56 20 10  | 15 54<br>15 52<br>15 50                   | 3 42 5 38<br>3 43 5 37<br>3 44 5 37   |
| T 8<br>F 9<br>S 10                                 | 5 37<br>5 59<br>6 22                                     | 6 16 5 8<br>1 55 4 58   |  | 6 8 6 51<br>5 47 6 39  |   | 11 32 1 0<br>11 37 1 0   | 1 44 2 12<br>1 46 2 12   | 23 29 0 7<br>23 29 0 7                           | 0 22 1 30<br>0 22 1 30  | 0 2 16 10<br>0 2 16 10  | 19 55 20 9<br>19 53 20 9<br>19 52 20 8  | 15 47<br>15 45                            | 3 45 5 37<br>3 46 5 37<br>3 47 5 36   |
| S 11<br>M12<br>T 13<br>W14<br>T 15<br>F 16<br>S 17 | 6 45<br>7 8<br>7 30<br>7 53<br>8 15<br>8 38<br>9 0       | 7 6 3 56<br>11 22 3 4<br>15 9 2 2<br>18 12 0 52<br>20 16 0n23 | 8 5 1 32<br>7 19 1 12<br>6 35 0 51<br>5 53 0 31<br>5 14 0 10 | 5 6 6 13<br>4 47 6 0<br>4 28 5 47<br>4 10 5 33<br>3 53 5 19  | 5 22 0 40<br>5 38 0 39  | 11 50 0 59<br>11 54 0 59<br>11 59 0 59<br>12 3 0 59  | 1 52 2 12<br>1 55 2 12<br>1 58 2 12<br>2 1 2 12<br>2 3 2 12                              | 23 29 0 7<br>23 29 0 7<br>23 29 0 7              | 0 20 1 30   | 0 3 16 10<br>0 4 16 11<br>0 4 16 11<br>0 4 16 11<br>0 5 16 11               | 19 50 20 7<br>19 48 20 7<br>19 47 20 6<br>19 46 20 5<br>19 46 20 4<br>19 46 20 3                        | 15 41<br>15 40<br>15 38<br>15 36<br>15 34 | 3 48 5 36<br>3 49 5 36<br>3 50 5 35<br>3 51 5 35<br>3 52 5 35<br>3 53 5 35<br>3 54 5 34 |
| S 18<br>M19<br>T 20<br>W21<br>T 22<br>F 23<br>S 24 | 9 22<br>9 44<br>10 5<br>10 27<br>10 48<br>11 10<br>11 31 | 18 59 3 45<br>16 6 4 31<br>12 15 5 1<br>7 43 5 13             | 3 8 1 37   | 3 8 4 37<br>2 54 4 24<br>2 42 4 10<br>2 31 3 56<br>2 21 3 42 | 7 11 0 37<br>7 27 0 36<br>7 42 0 36<br>7 58 0 35<br>8 13 0 35                           | 12 12 0 59<br>12 17 0 59<br>12 21 0 59<br>12 25 0 59<br>12 30 0 59<br>12 34 0 59<br>12 39 0 59 | 2 9 2 12<br>2 12 2 12<br>2 14 2 12<br>2 17 2 12<br>2 20 2 12<br>2 23 2 13<br>2 25 2 13   | 23 29 0 8<br>23 29 0 8<br>23 29 0 8<br>23 29 0 8 | 0 17 1 30<br>0 16 1 30<br>0 15 1 30<br>0 15 1 30<br>0 14 1 30<br>0 14 1 30<br>0 13 1 30 | 0 6 16 11<br>0 6 16 11<br>0 7 16 11<br>0 7 16 11<br>0 7 16 11               |   | 15 29<br>15 27<br>15 25<br>15 23<br>15 21 | 3 56 5 34<br>3 57 5 33<br>3 58 5 33<br>3 58 5 33<br>3 59 5 32                           |
| S 25<br>M26<br>T 27<br>W28<br>T 29<br>F 30<br>S 31 | 12 33<br>12 53<br>13 14<br>13 34                         | 11 39 3 1<br>15 26 1 56<br>18 20 0 46<br>20 14 0s24           | 3 36 1 59<br>3 54 2 3<br>4 15 2 6<br>4 39 2 8<br>5 7 2 9     | 1 56 3 3<br>1 50 2 50<br>1 45 2 37<br>1 41 2 25<br>1 38 2 13 | 8 43 0 34<br>8 59 0 33<br>9 14 0 33<br>9 29 0 32<br>9 44 0 32<br>9 59 0 31<br>0s14 0n31 | 12 47 0 59<br>12 52 0 59<br>12 56 0 59<br>13 0 0 58  | 2 28 2 13<br>2 31 2 13<br>2 33 2 13<br>2 36 2 13<br>2 39 2 13<br>2 41 2 13<br>2 s44 2n13 | 23 29 0 8<br>23 29 0 8<br>23 29 0 8<br>23 29 0 8 | 0 10 1 30   | 0 8 16 12<br>0 9 16 12<br>0 9 16 12<br>0 9 16 12<br>0 9 16 12<br>0 10 16 12 | 19 43 19 58<br>19 42 19 56<br>19 42 19 56<br>19 41 19 56<br>19 41 19 55<br>19 42 19 54<br>19 842 19 853 | 15 16<br>15 14<br>15 12<br>15 10<br>15 8  | 4 2 5 31<br>4 2 5 31<br>4 3 5 31<br>4 4 5 30<br>4 5 5 30                                |

Julian Day Number = 2401779.5, Delta T = 8.80 sec Ecliptic obliquity =  $23^{\circ}27'21$ , Nutation =  $0^{\circ}00'14$ , out-of-bounds declination in red Ayanamsha: Fagan/Bradley =  $22^{\circ}50'15$ , Lahiri =  $21^{\circ}57'16$ 

NOVEMBER 1863 00:00 UT

| Day  | Sid.t   | 0                 | D               | ğ              | ρ              | ď               | 4             | ħ              | )∤(            | ¥             | В      | n              | ß              | Ç             | ķ             | Day  |
|------|---------|-------------------|-----------------|----------------|----------------|-----------------|---------------|----------------|----------------|---------------|--------|----------------|----------------|---------------|---------------|------|
| S 1  | 2 39 9  | 8M 5'27           | 99514           | 20 <u>₽</u> 45 | 29 Mp 49       | 28 <b>Ω</b> 29  | 7 <b>M</b> 51 | 12 <b>₽</b> 12 | 24°R40         | 3°R49         | 11°R24 | 27 <b>M</b> 54 | 28 <b>M</b> 41 | 2 <b>Ω</b> 39 | 6°R18         | S 1  |
| M 2  | 2 43 5  | 9° 5'33           | 21°11           | 22° 9          | 0 <u>₽</u> 15  | 29°10           | 8° 5          | 12°18          | 24∏39          | <b>3</b> Υ48  | 11823  | 27°55          | 28°38          | 2°46          | 6 <b>∺</b> 18 | M 2  |
| T 3  | 2 47 2  | 10° 5'40          | 3 <b>Ω</b> 3    | 23°36          | 0°43           | 29°50           | 8°18          | 12°25          | 24°37          | 3°47          | 11°22  | 27°56          | 28°35          | 2°52          | 6°17          | T 3  |
| W 4  | 2 50 58 | 11° 5'50          | 14°55           | 25° 5          | 1°12           | 0 <b>M</b> .30  | 8°31          | 12°32          | 24°36          | 3°46          | 11°21  | 27°R56         | 28°31          | 2°59          | 6°16          | W 4  |
| T 5  | 2 54 55 | 12° 6'02          | 26°53           | 26°36          | 1°43           | 1°11            | 8°44          | 12°39          | 24°34          | 3°44          | 11°20  | 27°56          | 28°28          | 3° 6          | 6°15          | T 5  |
| F 6  | 2 58 51 | 13° 6'15          | 9 <b>m</b> y 0  | 28° 8          | 2°16           | 1°51            | 8°57          | 12°46          | 24°32          | 3°43          | 11°19  | 27°54          | 28°25          | 3°12          | 6°14          | F 6  |
| S 7  | 3 2 48  | 14° 6'31          | 21°21           | 29°41          | 2°50           | 2°32            | 9°10          | 12°52          | 24°31          | 3°42          | 11°18  | 27°53          | 28°22          | 3°19          | 6°14          | S 7  |
| S 8  | 3 6 44  | 15° 6'49          | 4 <b>₾</b> 0    | 1 <b>M</b> .15 | 3°25           | 3°12            | 9°23          | 12°59          | 24°29          | 3°41          | 11°16  | 27°51          | 28°19          | 3°26          | 6°13          | S 8  |
| M 9  | 3 10 41 | 16° 7'08          | 16°57           | 2°50           | 4° 2           | 3°53            | 9°37          | 13° 6          | 24°27          | 3°40          | 11°15  | 27°49          | 28°15          | 3°33          | 6°13          | M 9  |
| T 10 | 3 14 38 | 17° 7'30          | 0 <b>M</b> .15  | 4°25           | 4°40           | 4°34            | 9°50          | 13°12          | 24°25          | 3°38          | 11°14  | 27°48          | 28°12          | 3°39          | 6°12          | T 10 |
| W11  | 3 18 34 | 18° 7'53          | 13°52           | 6° 1           | 5°19           | 5°14            | 10° 3         | 13°19          | 24°23          | 3°37          | 11°13  | 27°47          | 28° 9          | 3°46          | 6°12          | W11  |
| T 12 | 3 22 31 | 19° 8'18          | 27°46           | 7°37           | 6° 0           | 5°55            | 10°16         | 13°25          | 24°21          | 3°36          | 11°12  | 27°D46         | 28° 6          | 3°53          | 6°12          | T 12 |
| F 13 | 3 26 27 | 20° 8'45          | 11 <b>×7</b> 54 | 9°13           | 6°42           | 6°36            | 10°29         | 13°32          | 24°19          | 3°35          | 11°11  | 27°47          | 28° 3          | 3°59          | 6°11          | F 13 |
| S 14 | 3 30 24 | 21° 9'14          | 26°12           | 10°49          | 7°24           | 7°16            | 10°42         | 13°38          | 24°17          | 3°34          | 11°10  | 27°47          | 28° 0          | 4° 6          | 6°11          | S 14 |
| S 15 | 3 34 20 | 22° 9'43          | 10중35           | 12°25          | 8° 8           | 7°57            | 10°55         | 13°44          | 24°15          | 3°33          | 11° 9  | 27°48          | 27°56          | 4°13          | 6°11          | S 15 |
| M16  | 3 38 17 | 23°10'14          | 24°58           | 14° 1          | 8°53           | 8°38            | 11°8          | 13°51          | 24°13          | 3°32          | 11° 8  | 27°48          | 27°53          | 4°20          | 6°11          | M16  |
| T 17 | 3 42 14 | 24°10'47          | 9≈17            | 15°37          | 9°39           | 9°19            | 11°21         | 13°57          | 24°11          | 3°31          | 11° 6  | 27°49          | 27°50          | 4°26          | 6°D11         | T 17 |
| W18  | 3 46 10 | 25°11'20          | 23°30           | 17°13          | 10°26          | 10° 0           | 11°34         | 14° 3          | 24° 9          | 3°31          | 11° 5  | 27°R49         | 27°47          | 4°33          | 6°11          | W18  |
| T 19 | 3 50 7  | 26°11'55          | 7 <b>)</b> €34  | 18°49          | 11°14          | 10°41           | 11°47         | 14° 9          | 24° 7          | 3°30          | 11° 4  | 27°49          | 27°44          | 4°40          | 6°11          | T 19 |
| F 20 | 3 54 3  | 27°12'31          | 21°28           | 20°24          | 12° 2          | 11°22           | 12° 0         | 14°15          | 24° 5          | 3°29          | 11° 3  | 27°49          | 27°41          | 4°46          | 6°11          | F 20 |
| S 21 | 3 58 0  | 28°13'08          | 5 <b>Υ</b> 10   | 22° 0          | 12°52          | 12° 3           | 12°13         | 14°21          | 24° 2          | 3°28          | 11° 2  | 27°D49         | 27°37          | 4°53          | 6°11          | S 21 |
| S 22 | 4 1 56  | 29°13'46          | 18°40           | 23°35          | 13°42          | 12°44           | 12°26         | 14°27          | 24° 0          | 3°27          | 11° 1  | 27°49          | 27°34          | 5° 0          | 6°12          | S 22 |
| M23  | 4 5 53  | 0 <b>₮</b> 14'25  | 1 <b>8</b> 58   | 25°11          | 14°33          | 13°25           | 12°39         | 14°33          | 23°58          | 3°27          | 11° 0  | 27°49          | 27°31          | 5° 7          | 6°12          | M23  |
| T 24 | 4 9 49  | 1°15'06           | 15° 2           | 26°46          | 15°25          | 14° 6           | 12°52         | 14°39          | 23°56          | 3°26          | 10°59  | 27°49          | 27°28          | 5°13          | 6°12          | T 24 |
| W25  | 4 13 46 | 2°15'48           | 27°52           | 28°21          | 16°18          | 14°47           | 13° 4         | 14°45          | 23°53          | 3°25          | 10°58  | 27°R49         | 27°25          | 5°20          | 6°13          | W25  |
| T 26 | 4 17 43 | 3°16'31           | 10 <b>Ⅱ</b> 30  | 29°55          | 17°11          | 15°28           | 13°17         | 14°51          | 23°51          | 3°24          | 10°57  | 27°49          | 27°21          | 5°27          | 6°13          | T 26 |
| F 27 | 4 21 39 | 4°17'16           | 22°54           | 1 <b>₹</b> 30  | 18° 5          | 16° 9           | 13°30         | 14°56          | 23°49          | 3°24          | 10°56  | 27°49          | 27°18          | 5°33          | 6°14          | F 27 |
| S 28 | 4 25 36 | 5°18'02           | 599 7           | 3° 5           | 19° 0          | 16°51           | 13°43         | 15° 2          | 23°46          | 3°23          | 10°55  | 27°48          | 27°15          | 5°40          | 6°14          | S 28 |
| S 29 | 4 29 32 | 6°18'49           | 17°10           | 4°39           | 19°55          | 17°32           | 13°55         | 15° 8          | 23°44          | 3°23          | 10°54  | 27°47          | 27°12          | 5°47          | 6°15          | S 29 |
| M30  | 4 33 29 | 7 <b>.</b> ₹19'38 | 2995 6          | 6 <b>₹</b> 14  | 20 <b>♀</b> 51 | 18 <b>M</b> .13 | 14 <b>M</b> 8 | 15 <b>≏</b> 13 | 23 <b>Ⅱ</b> 41 | 3 <b>℃</b> 22 | 10853  | 27 <b>M</b> 45 | 27 <b>M</b> 9  | 5 <b>Ω</b> 54 | 6 <b>∺</b> 16 | M30  |

| Day  | 0      | D          | ğ                  | Q            | ♂       | 2       | 4    | ŧ     | 1    | );    | ł(   | 4     | 7     | Р          | n      | v      | Ç     | ķ         |
|------|--------|------------|--------------------|--------------|---------|---------|------|-------|------|-------|------|-------|-------|------------|--------|--------|-------|-----------|
|      | decl   | decl lat   | decl lat           | decl lat d   | ecl lat | decl    | lat  | decl  | lat  | decl  | lat  | decl  | lat   | decl lat   | decl   | decl   | decl  | decl lat  |
| S 1  | 14 s13 | 19n40 3 s2 | 6s 8 2n 8          | 1s35 1s49 10 | 28 0n30 | 13 s13  | 0n58 | 2 s46 | 2n13 | 23n29 | 0n 8 | 0n 9  | 1 s30 | 0s10 16s12 | 19 s42 | 19 s53 | 15n 4 | 4s 6 5n29 |
| M 2  | 14 32  | 17 37 4 13 | 8 6 41 2 6         | 1 35 1 37 10 | 43 0 30 | 13 17   | 0 58 | 2 49  | 2 14 | 23 29 | 0 8  | 0 8   | 1 30  | 0 11 16 12 | 19 43  | 19 52  | 15 3  | 4 7 5 29  |
| T 3  | 14 51  | 14 50 4 4  | 7   7   15   2   4 | 1 36 1 26 10 | 58 0 29 | 13 22   | 0 58 | 2 52  | 2 14 | 23 28 | 0 8  | 0 8   | 1 30  | 0 11 16 12 | 19 43  | 19 51  | 15 1  | 4 7 5 29  |
| W 4  | 15 10  | 11 27 5    | 3 7 51 2 1         | 1 38 1 15 11 | 12 0 29 | 13 26   | 0 58 | 2 54  | 2 14 | 23 28 | 0 8  | 0 7   | 1 30  | 0 11 16 12 | 19 43  | 19 51  | 14 59 | 4 8 5 28  |
| T 5  | 15 29  | 7 36 5 1   | 8 27 1 57          | 1 40 1 5 11  |         |         | 0 58 | 2 57  | 2 14 |       | 0 8  | 0 7   | 1 30  | -          | 19 43  |        |       | 4 9 5 28  |
| F 6  | 15 47  | 3 24 5 10  |                    |              |         | 13 34   |      | 2 59  | 2 14 |       |      | 0 7   | 1 30  | 0 12 16 12 |        |        |       | 4 9 5 27  |
| S 7  | 16 5   | 1s 1 4 50  | 9 41 1 48          | 1 48 0 44 11 | 56 0 27 | 13 39   | 0 58 | 3 2   | 2 14 | 23 28 | 0 8  | 0 6   | 1 30  | 0 12 16 12 | 19 42  | 19 49  | 14 53 | 4 10 5 27 |
| S 8  | 16 23  | 5 30 4 10  | 5 10 18 1 43       | 1 53 0 34 12 | 10 0 27 | 13 43   | 0 58 | 3 4   | 2 14 | 23 28 | 0 8  | 0 6   | 1 29  | 0 13 16 12 | 19 42  | 19 48  | 14 51 | 4 10 5 27 |
| M 9  | 16 40  | 9 51 3 2   |                    |              | -       | 13 47   | 0 58 | 3 7   | 2 14 |       |      | 0 5   | 1 29  | 0 13 16 11 |        |        | -     | 4 11 5 26 |
| T 10 |        |            |                    |              |         | 13 51   | 0 58 | 3 9   | 2 15 |       |      | 0 5   |       | 0 13 16 11 |        |        | -     | 4 11 5 26 |
| W11  | 17 15  |            | 5 12 11 1 26       |              |         | 13 55   | 0 58 | 3 11  | 2 15 |       | 0 8  | 0 4   | 1 29  | 0 13 16 11 |        |        | -     | 4 12 5 26 |
| T 12 |        |            | 12 48 1 20         |              |         | 13 59   | 0 58 | 3 14  | 2 15 |       |      | 0 4   | 1 29  | 0 14 16 11 |        |        |       | 4 12 5 25 |
| F 13 | 17 48  | 20 57 1n1  | 3 13 24 1 14       | 2 29 0 11 13 |         |         |      | 3 16  | 2 15 |       | 0 8  | 0 4   | 1 29  | 0 14 16 11 |        |        |       | 4 13 5 25 |
| S 14 | 18 4   | 20 53 2 3  | 1 14 1 1 7         | 2 39 0 19 13 | 35 0 24 | 14 8    | 0 58 | 3 18  | 2 15 | 23 28 | 0 8  | 0 3   | 1 29  | 0 14 16 11 | 19 41  | 19 44  | 14 40 | 4 13 5 24 |
| S 15 |        |            | 6 14 36 1 1        | 2 49 0 27 13 |         |         | 0 58 | 3 21  | 2 15 |       |      | 0 3   | 1 29  | 0 14 16 11 |        |        |       | 4 13 5 24 |
| M16  |        |            |                    |              | 2 0 23  |         | 0 58 | 3 23  | 2 15 |       |      | 0 3   | 1 29  | 0 15 16 11 |        |        |       | 4 14 5 24 |
| T 17 | 18 50  | 13 6 5     | 1 15 46 0 47       | 3 10 0 43 14 |         | 14 20   | 0 58 | 3 25  | 2 16 |       | 0 8  | 0 2   | 1 29  | 0 15 16 11 |        |        |       | 4 14 5 23 |
| W18  | 19 4   |            | 6 16 20 0 41       | 3 22 0 50 14 |         | 14 24   | 0 58 | 3 28  | 2 16 |       |      | 0 2   | 1 29  | 0 15 16 11 |        |        | -     | 4 15 5 23 |
| T 19 | 19 19  |            | 3 16 53 0 34       |              |         |         | 0 58 | 3 30  | 2 16 |       |      | 0 2   | 1 29  | 0 15 16 11 |        |        |       | 4 15 5 23 |
| F 20 | 19 33  | 1n 4 4 5   |                    |              |         | 14 32   | 0 58 | 3 32  | 2 16 |       |      | 0 1   | 1 29  | 0 15 16 11 |        |        |       | 4 15 5 22 |
| S 21 | 19 47  | 5 55 4 13  | 2 17 57 0 20       | 4 0 1 10 15  | 9 0 20  | 14 36   | 0 58 | 3 34  | 2 16 | 23 27 | 0 8  | 0 1   | 1 29  | 0 16 16 10 | 19 41  | 19 39  | 14 27 | 4 15 5 22 |
| S 22 | 20 0   | 10 25 3 2  | 1 18 28 0 13       | 4 14 1 17 15 | 22 0 19 | 14 40   | 0 58 | 3 36  | 2 16 | 23 27 | 0 8  | 0 1   | 1 29  | 0 16 16 10 | 19 41  | 19 38  | 14 25 | 4 16 5 21 |
| M23  | 20 13  | 14 20 2 1  | 9 18 58 0 6        | 4 28 1 23 15 | 35 0 19 | 14 43   | 0 58 | 3 38  | 2 17 | 23 27 | 0 8  | 0 0   | 1 29  | 0 16 16 10 | 19 41  | 19 37  | 14 23 | 4 16 5 21 |
| T 24 | 20 25  | 17 29 1 10 | 0 19 27 0s 1       | 4 43 1 29 15 | 47 0 18 | 14 47   | 0 58 | 3 41  | 2 17 | 23 27 | 0 8  | 0 0   | 1 29  | 0 16 16 10 | 19 41  | 19 36  | 14 21 | 4 16 5 21 |
| W25  | 20 38  | 19 42 0s   | 19 55 0 7          | 4 58 1 34 16 | 0 0 18  | 14 51   | 0 58 | 3 43  | 2 17 | 23 27 | 0 8  | 0 0   | 1 29  | 0 16 16 10 | 19 41  | 19 36  | 14 19 | 4 16 5 20 |
| T 26 | 20 50  | 20 53 1 10 | 20 23 0 14         | 5 13 1 40 16 | 13 0 17 | 14 55   | 0 58 | 3 45  | 2 17 | 23 27 | 0 8  | 0 s 0 | 1 29  | 0 17 16 10 | 19 41  | 19 35  | 14 17 | 4 16 5 20 |
| F 27 | 21 1   | 21 1 2 1:  | 5 20 49 0 21       | 5 29 1 45 16 | 25 0 17 | 14 59   | 0 58 | 3 47  | 2 17 | 23 27 | 0 8  | 0 0   | 1 29  | 0 17 16 10 | 19 41  | 19 34  | 14 15 | 4 17 5 20 |
| S 28 | 21 12  | 20 9 3 1   | 2 21 14 0 27       | 5 45 1 50 16 | 37 0 16 | 15 3    | 0 58 | 3 49  | 2 18 | 23 27 | 0 8  | 0 1   | 1 29  | 0 17 16 9  | 19 41  | 19 34  | 14 13 | 4 17 5 19 |
| S 29 | 21 23  | 18 22 4    | 21 38 0 34         | 6 2 1 55 16  | 50 0 15 | 15 6    | 0 58 | 3 51  | 2 18 | 23 26 | 0 8  | 0 1   | 1 29  | 0 17 16 9  | 19 41  | 19 33  | 14 11 | 4 17 5 19 |
| M30  | 21 s33 | 15n49 4s3  | 3 22 s 1 0 s 40    | 6s18 1n59 17 | 2 0n15  | 15 s 10 | 0n58 | 3 s52 | 2n18 | 23n26 | 0n 8 | 0 s 1 | 1 s29 | 0s17 16s 9 | 19 s40 | 19 s32 | 14n10 | 4s17 5n19 |

Julian Day Number = 2401810.5, Delta T = 8.77 sec Ecliptic obliquity =  $23^{\circ}27'20$ , Nutation =  $0^{\circ}00'14$ , out-of-bounds declination in red Ayanamsha: Fagan/Bradley =  $22^{\circ}50'20$ , Lahiri =  $21^{\circ}57'20$ 

DECEMBER 1863 00:00 UT

| Day  | Sid.t   | 0                             | D               | ğ              | φ               | o <sup>7</sup>  | 4               | ħ              | )ţ(             | <del>¥</del>  | В      | n               | Ω              | Ç            | ķ             | Day  |
|------|---------|-------------------------------|-----------------|----------------|-----------------|-----------------|-----------------|----------------|-----------------|---------------|--------|-----------------|----------------|--------------|---------------|------|
| T 1  | 4 37 25 | 8 <b>×</b> <sup>7</sup> 20'28 | 10Ω58           | 7 <b>₹</b> 148 | 21 <u>₽</u> 48  | 18 <b>M</b> _55 | 14 <b>M</b> _21 | 15 <b>Ω</b> 18 | 23°R39          | 3°R22         | 10°R52 | 27°R44          | 27 <b>TL</b> 6 | 6 <b>Ω</b> 0 | 6 <b>¥</b> 17 | T 1  |
| W 2  | 4 41 22 | 9°21'19                       | 22°49           | 9°22           | 22°45           | 19°36           | 14°33           | 15°24          | 23 <b>II</b> 37 | 3 <b>Υ</b> 21 | 10851  | 27 <b>M</b> .43 | 27° 2          | 6° 7         | 6°17          | W 2  |
| T 3  | 4 45 18 | 10°22'12                      | 4 Mp 45         | 10°56          | 23°43           | 20°17           | 14°46           | 15°29          | 23°34           | 3°21          | 10°50  | 27°42           | 26°59          | 6°14         | 6°18          | T 3  |
| F 4  | 4 49 15 | 11°23'06                      | 16°50           | 12°31          | 24°41           | 20°59           | 14°58           | 15°34          | 23°32           | 3°20          | 10°49  | 27°D42          | 26°56          | 6°20         | 6°19          | F 4  |
| S 5  | 4 53 12 | 12°24'01                      | 29° 8           | 14° 5          | 25°40           | 21°40           | 15°11           | 15°39          | 23°29           | 3°20          | 10°48  | 27°43           | 26°53          | 6°27         | 6°20          | S 5  |
| S 6  | 4 57 8  | 13°24'58                      | 11 <b>≏</b> 44  | 15°39          | 26°39           | 22°22           | 15°23           | 15°44          | 23°27           | 3°20          | 10°47  | 27°44           | 26°50          | 6°34         | 6°22          | S 6  |
| M 7  | 5 1 5   | 14°25'56                      | 24°41           | 17°13          | 27°39           | 23° 4           | 15°35           | 15°49          | 23°24           | 3°19          | 10°46  | 27°45           | 26°46          | 6°41         | 6°23          | M 7  |
| T 8  | 5 5 1   | 15°26'55                      | 8M 3            | 18°47          | 28°39           | 23°45           | 15°48           | 15°54          | 23°22           | 3°19          | 10°45  | 27°47           | 26°43          | 6°47         | 6°24          | T 8  |
| W 9  | 5 8 58  | 16°27'55                      | 21°50           | 20°22          | 29°40           | 24°27           | 16° 0           | 15°59          | 23°19           | 3°19          | 10°44  | 27°R47          | 26°40          | 6°54         | 6°25          | W 9  |
| T 10 | 5 12 54 | 17°28'57                      | 6 <b>₹</b> 2    | 21°56          | 0 <b>M</b> .41  | 25° 9           | 16°12           | 16° 4          | 23°16           | 3°19          | 10°43  | 27°47           | 26°37          | 7° 1         | 6°26          | T 10 |
| F 11 | 5 16 51 | 18°29'59                      | 20°33           | 23°31          | 1°42            | 25°50           | 16°24           | 16° 9          | 23°14           | 3°19          | 10°43  | 27°46           | 26°34          | 7° 7         | 6°28          | F 11 |
| S 12 | 5 20 47 | 19°31'02                      | 5 <b>ਰ</b> 18   | 25° 5          | 2°44            | 26°32           | 16°36           | 16°13          | 23°11           | 3°18          | 10°42  | 27°44           | 26°31          | 7°14         | 6°29          | S 12 |
| S 13 | 5 24 44 | 20°32'06                      | 20°10           | 26°40          | 3°46            | 27°14           | 16°48           | 16°18          | 23° 9           | 3°18          | 10°41  | 27°41           | 26°27          | 7°21         | 6°31          | S 13 |
| M14  | 5 28 41 | 21°33'10                      | 5≈ 1            | 28°14          | 4°49            | 27°56           | 17° 0           | 16°22          | 23° 6           | 3°18          | 10°40  | 27°37           | 26°24          | 7°28         | 6°32          | M14  |
| T 15 | 5 32 37 | 22°34'15                      | 19°43           | 29°49          | 5°52            | 28°38           | 17°12           | 16°27          | 23° 4           | 3°D18         | 10°39  | 27°34           | 26°21          | 7°34         | 6°34          | T 15 |
| W16  | 5 36 34 | 23°35'20                      | 4 <b>∺</b> 9    | 1 <b>る</b> 24  | 6°55            | 29°20           | 17°24           | 16°31          | 23° 1           | 3°18          | 10°38  | 27°32           | 26°18          | 7°41         | 6°36          | W16  |
| T 17 | 5 40 30 | 24°36'25                      | 18°18           | 2°59           | 7°59            | 0 <b>才</b> 2    | 17°36           | 16°35          | 22°58           | 3°18          | 10°38  | 27°D31          | 26°15          | 7°48         | 6°37          | T 17 |
| F 18 | 5 44 27 | 25°37'31                      | 2 <b>Υ</b> 6    | 4°34           | 9° 3            | 0°44            | 17°48           | 16°39          | 22°56           | 3°18          | 10°37  | 27°31           | 26°12          | 7°54         | 6°39          | F 18 |
| S 19 | 5 48 23 | 26°38'37                      | 15°36           | 6° 9           | 10° 7           | 1°26            | 17°59           | 16°43          | 22°53           | 3°18          | 10°36  | 27°32           | 26° 8          | 8° 1         | 6°41          | S 19 |
| S 20 | 5 52 20 | 27°39'43                      | 28°47           | 7°44           | 11°12           | 2° 8            | 18°11           | 16°47          | 22°51           | 3°19          | 10°35  | 27°33           | 26° 5          | 8° 8         | 6°43          | S 20 |
| M21  | 5 56 16 | 28°40'49                      | 11 <b>8</b> 43  | 9°20           | 12°16           | 2°50            | 18°22           | 16°51          | 22°48           | 3°19          | 10°35  | 27°35           | 26° 2          | 8°15         | 6°45          | M21  |
| T 22 | 6 0 13  | 2 <u>9</u> °41'56             | 24°24           | 10°55          | 13°22           | 3°32            | 18°34           | 16°55          | 22°46           | 3°19          | 10°34  | 27°R36          | 25°59          | 8°21         | 6°47          | T 22 |
| W23  | 6 4 10  | 0 <b>ප්</b> 43'03             | 6 <b>I</b> I55  | 12°30          | 14°27           | 4°14            | 18°45           | 16°58          | 22°43           | 3°19          | 10°33  | 27°36           | 25°56          | 8°28         | 6°49          | W23  |
| T 24 | 6 8 6   | 1°44'10                       | 19°15           | 14° 5          | 15°33           | 4°57            | 18°57           | 17° 2          | 22°41           | 3°20          | 10°33  | 27°34           | 25°52          | 8°35         | 6°51          | T 24 |
| F 25 | 6 12 3  | 2°45'17                       | 19526           | 15°40          | 16°39           | 5°39            | 19° 8           | 17° 5          | 22°38           | 3°20          | 10°32  | 27°30           | 25°49          | 8°41         | 6°53          | F 25 |
| S 26 | 6 15 59 | 3°46'25                       | 13°31           | 17°14          | 17°45           | 6°21            | 19°19           | 17° 9          | 22°36           | 3°20          | 10°31  | 27°24           | 25°46          | 8°48         | 6°55          | S 26 |
| S 27 | 6 19 56 | 4°47'33                       | 25°29           | 18°49          | 18°51           | 7° 3            | 19°30           | 17°12          | 22°33           | 3°21          | 10°31  | 27°17           | 25°43          | 8°55         | 6°57          | S 27 |
| M28  | 6 23 52 | 5°48'41                       | 7 <b>Ω</b> 23   | 20°23          | 19°58           | 7°46            | 19°41           | 17°15          | 22°31           | 3°21          | 10°30  | 27° 9           | 25°40          | 9° 2         | 7° 0          | M28  |
| T 29 | 6 27 49 | 6°49'50                       | 19°15           | 21°56          | 21° 5           | 8°28            | 19°52           | 17°18          | 22°28           | 3°22          | 10°30  | 27° 2           | 25°37          | 9° 8         | 7° 2          | T 29 |
| W30  | 6 31 45 | 7°50'59                       | 1 mg 6          | 23°28          | 22°12           | 9°11            | 20° 3           | 17°21          | 22°26           | 3°22          | 10°29  | 26°55           | 25°33          | 9°15         | 7° 4          | W30  |
| T 31 | 6 35 42 | 8 <b>궁</b> 52'08              | 13 <b>m</b> ) 1 | 25 <b>る</b> 0  | 23 <b>M</b> .19 | 9 <b>,</b> ₹53  | 20 <b>M</b> .14 | 17 <b>≏</b> 24 | 22 <b>II</b> 23 | 3 <b>℃</b> 23 | 10829  | 26M50           | 25 <b>M</b> 30 | $9\Omega$ 22 | 7 <b>∺</b> 7  | T 31 |

| Day  | 0   | D   | ğ  | ρ  | ♂  | 4  | ħ   | )∤(   | ¥  | Р   | R.   | ი Ç  | ķ  |
|--|---|---|--|--|--|--|---|---|--|---|--|--|--|
|  | decl                                      | decl lat  | decl lat   | decl lat dec   | l lat                                      | decl lat   | decl lat  | decl lat  | decl lat   | decl lat  | decl   | ecl decl   | decl lat   |
| T 1<br>W 2<br>T 3<br>F 4                           | 21 s43<br>21 52<br>22 1<br>22 10          | 8 57 5 15<br>4 54 5 14<br>0 37 4 59                               | 23 22 1 4  | 2 6 53 2 8 17 2<br>8 7 10 2 12 17 3<br>4 7 28 2 15 17 4                    | 6 0 14<br>7 0 13<br>9 0 13                 | 15 s14   | 3 56 2 18<br>3 58 2 19<br>4 0 2 19  | 23 26 0 8   | 0 1 1 29<br>0 1 1 29<br>0 2 1 29   | 0 17 16 9<br>0 18 16 8  | 19 40 19<br>19 40 19<br>19 40 19                         | 31 14 6<br>30 14 4<br>29 14 2                            | 4s17 5n18<br>4 17 5 18<br>4 17 5 17<br>4 17 5 17                                       |
| S 5<br>S 6<br>M 7<br>T 8<br>W 9<br>T 10            | 22 40<br>22 46<br>22 52                   | 8 8 3 48<br>12 15 2 53<br>15 53 1 47<br>18 46 0 33<br>20 35 0n45  | 23 40 1 10<br>23 56 1 15<br>24 11 1 21<br>24 24 1 26<br>24 37 1 31<br>24 48 1 35 | 5 8 4 2 22 18 1<br>1 8 23 2 26 18 2<br>6 8 41 2 28 18 3<br>1 9 0 2 31 18 4 | 1 0 11<br>3 0 11<br>4 0 10<br>4 0 10       | 15 28 0 58<br>15 32 0 58<br>15 36 0 58<br>15 39 0 58<br>15 43 0 58<br>15 46 0 58 | 4 5 2 19<br>4 7 2 20<br>4 8 2 20<br>4 10 2 20   | 23 26 0 8<br>23 26 0 8<br>23 25 0 8<br>23 25 0 8<br>23 25 0 8 | 0 2 1 28<br>0 2 1 28<br>0 2 1 28   | 0 18 16 8<br>0 18 16 8<br>0 18 16 8<br>0 18 16 7<br>0 18 16 7 | 19 40 19<br>19 41 19<br>19 41 19<br>19 41 19             | 28 13 58<br>27 13 56<br>26 13 54<br>25 13 52<br>25 13 50 | 4 17 5 16<br>4 17 5 16<br>4 17 5 16<br>4 17 5 15                                       |
| F 11<br>S 12<br>S 13<br>M14                        | 23 7<br>23 11                             | 20 9 3 12<br>17 49 4 10<br>14 20 4 50                             | 25 13 1 48<br>25 19 1 52   | 4 9 57 2 39 19 1<br>8 10 16 2 41 19 2<br>2 10 35 2 43 19 3                 | 6 0 7<br>6 0 7                             | 15 49 0 58<br>15 53 0 58<br>15 56 0 58<br>16 0 0 58                              | 4 12 2 20<br>4 13 2 21<br>4 15 2 21<br>4 16 2 21  | 23 25 0 8<br>23 25 0 8<br>23 25 0 8                           | 0 2 1 28   | 0 18 16 7<br>0 18 16 6<br>0 18 16 6                           | 19 40 19<br>19 39 19<br>19 39 19                         | 23 13 44<br>22 13 42                                     | 4 16 5 15<br>4 16 5 14<br>4 16 5 14<br>4 16 5 13                                       |
| T 15<br>W16<br>T 17<br>F 18<br>S 19                | 23 15<br>23 18<br>23 21<br>23 23<br>23 25 | 5 9 5 12<br>0 7 4 54<br>4n48 4 19                                 | 25 26 1 59<br>25 27 2 2<br>25 27 2 4   |  | 6 0 5<br>6 0 5<br>5 0 4                    | 16 3 0 58<br>16 6 0 58<br>16 9 0 58<br>16 13 0 58<br>16 16 0 59                  | 4 18 2 21<br>4 19 2 21<br>4 20 2 22<br>4 22 2 22<br>4 23 2 22                           | 23 24 0 8<br>23 24 0 8  | 0 2 1 28<br>0 2 1 28                         | 0 18 16 6<br>0 18 16 5<br>0 18 16 5                           | 19 38 19<br>19 37 19<br>19 37 19<br>19 37 19<br>19 37 19 | 20 13 39<br>20 13 37                                     | 4 15 5 13<br>4 15 5 13<br>4 15 5 12<br>4 14 5 12<br>4 14 5 12                          |
| S 20<br>M21<br>T 22<br>W23<br>T 24<br>F 25<br>S 26 |   | 16 43 1 26<br>19 10 0 17<br>20 39 0s51<br>21 6 1 55<br>20 33 2 54 | 25 17 2 10<br>25 11 2 11<br>25 3 2 12<br>24 54 2 12<br>24 43 2 12                | 1 13 7 2 52 20 5<br>2 13 26 2 53 21<br>2 13 45 2 53 21                     | 2 0 2<br>1 0 2<br>0 0 1<br>8 0 0<br>6 0s 0 |  | 4 24 2 22<br>4 26 2 23<br>4 27 2 23<br>4 28 2 23<br>4 29 2 23<br>4 30 2 24<br>4 31 2 24 | 23 24 0 8<br>23 24 0 8<br>23 24 0 8<br>23 23 0 8<br>23 23 0 8 | 0 2 1 28<br>0 1 1 28 | 0 18 16 4<br>0 18 16 4<br>0 18 16 4<br>0 18 16 4<br>0 18 16 3 | 19 38 19<br>19 38 19<br>19 38 19<br>19 37 19             | 17 13 29<br>16 13 27<br>15 13 25<br>14 13 23             | 4 14 5 11<br>4 13 5 11<br>4 13 5 11<br>4 12 5 10<br>4 12 5 10<br>4 12 5 10<br>4 11 5 9 |
| S 27<br>M28<br>T 29<br>W30<br>T 31                 | 23 20                                     | 13 44 4 51<br>10 12 5 6<br>6 17 5 8                               | 23 44 2 6  | 8 14 58 2 53 21 3<br>6 15 16 2 53 21 4<br>2 15 33 2 52 21 5                | 9 0 2<br>7 0 3<br>4 0 4                    |  | 4 32 2 24<br>4 33 2 25<br>4 34 2 25<br>4 35 2 25<br>4s36 2n25                           | 23 23 0 8<br>23 23 0 8  | 0 0 1 28<br>0 0 1 27   | 0 17 16 2<br>0 17 16 2  | 19 32 19<br>19 30 19<br>19 29 19                         |  | 4 11 5 9<br>4 10 5 9<br>4 9 5 8<br>4 9 5 8<br>4s 8 5n 8                                |

Julian Day Number = 2401840.5, Delta T = 8.75 sec Ecliptic obliquity =  $23^{\circ}27'20$ , Nutation =  $0^{\circ}00'14$ , out-of-bounds declination in red Ayanamsha: Fagan/Bradley =  $22^{\circ}50'24$ , Lahiri =  $21^{\circ}57'24$