

# Astrodienst Ephemeris Tables for the year 2219

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 2219 00:00 UT

| Day  | Sid.t   | 0                | D              | ğ      | φ             | ♂              | 4              | ħ               | )ұ(            | ¥             | Р             | R                     | ຄ              | Ç              | ę,           | Day  |
|------|---------|------------------|----------------|--------|---------------|----------------|----------------|-----------------|----------------|---------------|---------------|-----------------------|----------------|----------------|--------------|------|
| F 1  | 6 39 44 | 9 <b>ට</b> 42'27 | 0න 8           | 23중13  | 29M 3         | 11 <b>≏</b> 42 | 2 <b>M</b> 27  | 10 <b>M</b> .44 | 27 <b>m</b> 56 | 5°R37         | 3 <b>≏</b> 14 | 0°R31                 | 29 <u>₽</u> 25 | 24 Mp 18       | <b>3</b> Υ56 | F 1  |
| S 2  | 6 43 41 | 10°43'34         | 13°14          | 24°47  | 0 <b>∡</b> 15 | 12° 9          | 2°35           | 10°49           | 27°56          | 5 <b>Ⅱ</b> 36 | 3°14          | 0 <b>M</b> .19        | 29°22          | 24°25          | 3°57         | S 2  |
| S 3  | 6 47 37 | 11°44'41         | 26° 6          | 26°21  | 1°27          | 12°35          | 2°43           | 10°54           | 27°R56         | 5°34          | 3°14          | 0° 6                  | 29°19          | 24°32          | 3°58         | S 3  |
| M 4  | 6 51 34 | 12°45'48         | 8 <b>Ω</b> 42  | 27°54  | 2°39          | 13° 2          | 2°51           | 10°58           | 27°56          | 5°33          | 3°14          | 29 <u><b>0</b></u> 53 | 29°16          | 24°38          | 3°59         | M 4  |
| T 5  | 6 55 30 | 13°46'55         | 21° 4          | 29°27  | 3°51          | 13°28          | 2°59           | 11° 3           | 27°56          | 5°32          | 3°14          | 29°41                 | 29°12          | 24°45          | 4° 0         | T 5  |
| W 6  | 6 59 27 | 14°48'03         | 3 Mp 12        | 0≈58   | 5° 3          | 13°53          | 3° 7           | 11° 7           | 27°55          | 5°31          | 3°R14         | 29°32                 | 29° 9          | 24°52          | 4° 2         | W 6  |
| T 7  | 7 3 23  | 15°49'11         | 15° 9          | 2°28   | 6°15          | 14°19          | 3°14           | 11°12           | 27°55          | 5°29          | 3°14          | 29°25                 | 29° 6          | 24°58          | 4° 3         | T 7  |
| F 8  | 7 7 20  | 16°50'19         | 26°59          | 3°57   | 7°27          | 14°44          | 3°22           | 11°16           | 27°55          | 5°28          | 3°14          | 29°21                 | 29° 3          | 25° 5          | 4° 4         | F 8  |
| S 9  | 7 11 16 | 17°51'27         | 8 <b>≏</b> 47  | 5°23   | 8°40          | 15° 9          | 3°29           | 11°20           | 27°55          | 5°27          | 3°14          | 29°20                 | 29° 0          | 25°12          | 4° 5         | S 9  |
| S 10 | 7 15 13 | 18°52'36         | 20°38          | 6°48   | 9°52          | 15°34          | 3°36           | 11°24           | 27°54          | 5°26          | 3°14          | 29°D19                | 28°56          | 25°18          | 4° 7         | S 10 |
| M11  | 7 19 10 | 19°53'45         | 2 <b>M</b> 38  | 8°10   | 11° 5         | 15°59          | 3°43           | 11°29           | 27°54          | 5°25          | 3°14          | 29°R19                | 28°53          | 25°25          | 4° 8         | M11  |
| T 12 | 7 23 6  | 20°54'54         | 14°52          | 9°29   | 12°17         | 16°23          | 3°50           | 11°33           | 27°53          | 5°24          | 3°14          | 29°18                 | 28°50          | 25°32          | 4°10         | T 12 |
| W13  | 7 27 3  | 21°56'03         | 27°25          | 10°44  | 13°30         | 16°47          | 3°57           | 11°36           | 27°53          | 5°23          | 3°13          | 29°16                 | 28°47          | 25°38          | 4°11         | W13  |
| T 14 | 7 30 59 | 22°57'12         | 10 <b>×</b> 21 | 11°54  | 14°43         | 17°11          | 4° 3           | 11°40           | 27°52          | 5°21          | 3°13          | 29°10                 | 28°44          | 25°45          | 4°13         | T 14 |
| F 15 | 7 34 56 | 23°58'21         | 23°42          | 13° 0  | 15°55         | 17°34          | 4°10           | 11°44           | 27°52          | 5°20          | 3°13          | 29° 2                 | 28°41          | 25°52          | 4°14         | F 15 |
| S 16 | 7 38 52 | 24°59'30         | 7 <b>云</b> 29  | 14° 0  | 17° 8         | 17°57          | 4°16           | 11°48           | 27°51          | 5°20          | 3°12          | 28°52                 | 28°37          | 25°58          | 4°16         | S 16 |
| S 17 | 7 42 49 | 26° 0'39         | 21°40          | 14°53  | 18°21         | 18°20          | 4°22           | 11°51           | 27°50          | 5°19          | 3°12          | 28°39                 | 28°34          | 26° 5          | 4°18         | S 17 |
| M18  | 7 46 45 | 27° 1'48         | 6≈ 8           | 15°38  | 19°34         | 18°42          | 4°28           | 11°55           | 27°49          | 5°18          | 3°12          | 28°27                 | 28°31          | 26°12          | 4°20         | M18  |
| T 19 | 7 50 42 | 28° 2'56         | 20°47          | 16°16  | 20°47         | 19° 5          | 4°34           | 11°58           | 27°48          | 5°17          | 3°11          | 28°15                 | 28°28          | 26°18          | 4°21         | T 19 |
| W20  | 7 54 39 | 29° 4'03         | 5 <b>∺</b> 30  | 16°43  | 22° 0         | 19°26          | 4°40           | 12° 1           | 27°48          | 5°16          | 3°11          | 28° 6                 | 28°25          | 26°25          | 4°23         | W20  |
| T 21 | 7 58 35 | 0≈ 5'10          | 20° 7          | 17° 1  | 23°13         | 19°48          | 4°45           | 12° 5           | 27°47          | 5°15          | 3°10          | 27°59                 | 28°22          | 26°32          | 4°25         | T 21 |
| F 22 | 8 2 32  | 1° 6'16          | <b>4</b> Υ35   | 17°R 8 | 24°26         | 20° 9          | 4°50           | 12° 8           | 27°46          | 5°14          | 3°10          | 27°56                 | 28°18          | 26°38          | 4°27         | F 22 |
| S 23 | 8 6 28  | 2° 7'21          | 18°49          | 17° 3  | 25°39         | 20°30          | 4°56           | 12°11           | 27°44          | 5°13          | 3° 9          | 27°54                 | 28°15          | 26°45          | 4°29         | S 23 |
| S 24 | 8 10 25 | 3° 8'25          | 2 <b>8</b> 49  | 16°47  | 26°52         | 20°50          | 5° 1           | 12°14           | 27°43          | 5°13          | 3° 9          | 27°54                 | 28°12          | 26°52          | 4°31         | S 24 |
| M25  | 8 14 21 | 4° 9'29          | 16°34          | 16°20  | 28° 5         | 21°10          | 5° 6           | 12°16           | 27°42          | 5°12          | 3° 8          | 27°54                 | 28° 9          | 26°58          | 4°33         | M25  |
| T 26 | 8 18 18 | 5°10'31          | 0耳 5           | 15°41  | 29°18         | 21°30          | 5°10           | 12°19           | 27°41          | 5°11          | 3° 7          | 27°52                 | 28° 6          | 27° 5          | 4°35         | T 26 |
| W27  | 8 22 14 | 6°11'33          | 13°23          | 14°51  | 0 <b>궁</b> 32 | 21°49          | 5°15           | 12°22           | 27°40          | 5°11          | 3° 7          | 27°47                 | 28° 2          | 27°12          | 4°38         | W27  |
| T 28 | 8 26 11 | 7°12'33          | 26°30          | 13°53  | 1°45          | 22° 8          | 5°19           | 12°24           | 27°38          | 5°10          | 3° 6          | 27°40                 | 27°59          | 27°18          | 4°40         | T 28 |
| F 29 | 8 30 8  | 8°13'33          | 99526          | 12°46  | 2°58          | 22°27          | 5°23           | 12°27           | 27°37          | 5° 9          | 3° 5          | 27°30                 | 27°56          | 27°25          | 4°42         | F 29 |
| S 30 | 8 34 4  | 9°14'32          | 22°11          | 11°35  | 4°12          | 22°45          | 5°27           | 12°29           | 27°36          | 5° 9          | 3° 4          | 27°17                 | 27°53          | 27°32          | 4°44         | S 30 |
| S 31 | 8 38 1  | 10≈15'30         | 4 <b>Ω</b> 45  | 10≈20  | 5 <b>국</b> 25 | 23 <b>º</b> 3  | 5 <b>M</b> .31 | 12 <b>M</b> 31  | 27 <b>m</b> 34 | 5 <b>Ⅱ</b> 8  | 3 <b>₾</b> 4  | 27 <b>♀</b> 3         | 27 <b>≏</b> 50 | 27 <b>m</b> 38 | <b>4℃</b> 47 | S 31 |

| Day  | 0   | D  | ζ  | 5 9  | )   | ð  | 2   | ŀ  | ħ  | ì  | )į   | γ(   | 卉  |  | Р   | ß   | Ω   | ţ  | ķ  |
|--|---|--|--|--|---|--|---|--|--|--|--|--|--|--|---|---|---|--|--|
|  | decl                                      | decl lat   | decl   | lat decl   | lat d   | ecl lat  | decl  | lat  | decl   | lat  | decl   | lat  | decl lat   | dec  | l lat   | decl  | decl  | decl   | decl lat   |
| F 1<br>S 2   | 23 s 3<br>22 59                           | -  | 23 s33<br>23 15                                    | 2s10 17s43<br>2 9 17 59  |   |  | 11 s11<br>11 13   | 1n12<br>1 12   | 12 s49<br>12 50                                    | 2n20<br>2 20   | 1n32<br>1 32   |  |  | 0 13n2<br>0 13 2   | 4 16n 1<br>4 16 2   | 11 s38<br>11 34   |   | 0s28<br>0 30   | 4n14 2n54<br>4 14 2 54   |
| S 3<br>M 4<br>T 5<br>W 6<br>T 7<br>F 8                     | 22 48<br>22 42<br>22 35<br>22 28<br>22 21 | 13 16 4 58<br>10 1 4 41<br>6 24 4 12<br>2 35 3 32<br>1s17 2 43                               | 22 56<br>22 35<br>22 12<br>21 49<br>21 24<br>20 58 | 2 4 18 31<br>2 1 18 46<br>1 57 19 1<br>1 52 19 15<br>1 46 19 29  | 2 11 3<br>2 10 3<br>2 8 3<br>2 6 3<br>2 4 3                       | 7 2 12<br>16 2 13<br>25 2 13<br>35 2 14<br>44 2 15           | 11 16<br>11 18<br>11 21<br>11 23<br>11 26<br>11 28          | 1 13<br>1 13<br>1 13<br>1 13<br>1 13                 | 12 51<br>12 53<br>12 54<br>12 55<br>12 56<br>12 57 | 2 20<br>2 20<br>2 20<br>2 21<br>2 21<br>2 21                         | 1 32<br>1 32<br>1 32<br>1 32<br>1 32<br>1 33                 | 0 47<br>0 47<br>0 47<br>0 47<br>0 47                 | 19 34 1 44<br>19 34 1 44<br>19 34 1 44<br>19 33 1 44<br>19 33 1 39                             | 0 13 2<br>0 13 2<br>0 13 2<br>9 13 2                     | 5 16 3<br>6 16 3<br>6 16 4<br>7 16 4<br>7 16 5                            | 11 30<br>11 25<br>11 21<br>11 18<br>11 15<br>11 14          | 11 12<br>11 11<br>11 10<br>11 8<br>11 7                     | 0 32<br>0 34<br>0 36<br>0 38<br>0 40<br>0 42                 | 4 14 2 54<br>4 14 2 53<br>4 14 2 53<br>4 15 2 53<br>4 15 2 53<br>4 15 2 52                           |
| T 14   | -   | 12 6 0n18<br>14 59 1 21<br>17 14 2 23<br>18 41 3 19  | 20 3<br>19 34<br>19 5<br>18 35                     | 0 55 20 41   | 2 0 4<br>1 58 4<br>1 56 4<br>1 54 4<br>1 52 4                     | 2 2 16<br>10 2 17<br>19 2 18<br>27 2 18<br>36 2 19           | 11 30<br>11 33<br>11 35<br>11 37<br>11 39<br>11 41<br>11 43 |  | 13 2<br>13 3<br>13 4                               | 2 21<br>2 21<br>2 22<br>2 22<br>2 22<br>2 22<br>2 22<br>2 22         | 1 33<br>1 33<br>1 33<br>1 34<br>1 34<br>1 34                 | 0 47<br>0 47<br>0 47<br>0 47<br>0 47                 | 19 33 1 39<br>19 32 1 39<br>19 32 1 39 | 9 13 2<br>9 13 2<br>9 13 2<br>9 13 3<br>9 13 3           | 8 16 6<br>9 16 7<br>9 16 7<br>0 16 8<br>1 16 8                            | 11 13<br>11 13<br>11 13<br>11 13<br>11 12<br>11 10<br>11 7  | 11 5<br>11 4<br>11 3<br>11 2                                | 0 44<br>0 46<br>0 47<br>0 49<br>0 51<br>0 53<br>0 55         | 4 15 2 52<br>4 16 2 52<br>4 16 2 52<br>4 17 2 52<br>4 17 2 51<br>4 17 2 51<br>4 18 2 51              |
| S 16<br>S 17<br>M18<br>T 19<br>W20<br>T 21<br>F 22         | 20 44<br>20 32<br>20 19<br>20 6<br>19 53  | 16 46 4 58<br>13 54 4 58<br>10 9 4 38<br>5 46 3 59<br>1 4 3 5<br>3n39 2 0                    | 16 37<br>16 9<br>15 43<br>15 19<br>14 57<br>14 38  | 0 2 21 18<br>0n14 21 26<br>0 31 21 33<br>0 48 21 40<br>1 6 21 46 | 1 45 5<br>1 42 5<br>1 40 5<br>1 37 5<br>1 34 5<br>1 32 5          | 0 2 21<br>8 2 22<br>16 2 23<br>23 2 23<br>30 2 24<br>38 2 25 | 11 49<br>11 50<br>11 52<br>11 54<br>11 55                   |  | 13 6<br>13 7<br>13 8<br>13 9<br>13 9<br>13 10      | 2 23<br>2 24<br>2 24<br>2 24   | 1 34<br>1 35<br>1 35<br>1 36<br>1 36<br>1 36<br>1 37         | 0 47<br>0 47<br>0 47<br>0 47<br>0 47<br>0 47         | 19 32 1 39<br>19 32 1 39<br>19 32 1 39<br>19 32 1 39<br>19 32 1 39                             | 9 13 3<br>9 13 3<br>9 13 3<br>9 13 3<br>9 13 3<br>9 13 3 | 3 16 10<br>3 16 10<br>4 16 11<br>4 16 11<br>5 16 12                       | 10 59<br>10 54<br>10 50<br>10 47<br>10 45<br>10 43          | 10 56<br>10 55<br>10 54<br>10 53<br>10 52                   | 0 57<br>0 59<br>1 1<br>1 3<br>1 5<br>1 7<br>1 9              | 4 19 2 50<br>4 20 2 50<br>4 20 2 50<br>4 21 2 50<br>4 21 2 50<br>4 22 2 49                           |
| S 23<br>S 24<br>M25<br>T 26<br>W27<br>T 28<br>F 29<br>S 30 | 18 57<br>18 42<br>18 27<br>18 11<br>17 55 | 12 2 0s26<br>15 13 1 37<br>17 31 2 41<br>18 48 3 36<br>19 4 4 18<br>18 19 4 46<br>16 40 4 59 | 14 0<br>13 55<br>13 53<br>13 56                    | 2 35 22 7  | 1 26 5<br>1 23 5<br>1 21 6<br>1 18 6<br>1 15 6<br>1 12 6<br>1 9 6 | 52   | 12 1<br>12 2<br>12 4<br>12 5                                | 1 17<br>1 17<br>1 17<br>1 17<br>1 17<br>1 18<br>1 18 | 13 13<br>13 13<br>13 14<br>13 14                   | 2 24<br>2 24<br>2 25<br>2 25<br>2 25<br>2 25<br>2 26<br>2 26<br>2 26 | 1 37<br>1 38<br>1 38<br>1 39<br>1 40<br>1 40<br>1 41<br>1n42 | 0 47<br>0 47<br>0 47<br>0 47<br>0 47<br>0 48<br>0 48 | 19 31 1 39<br>19 31 1 39<br>19 31 1 39<br>19 31 1 39<br>19 31 1 30<br>19 31 1 30               | 9 13 3<br>9 13 3<br>9 13 3<br>9 13 3<br>8 13 4<br>8 13 4 | 7 16 13<br>7 16 13<br>8 16 14<br>9 16 15<br>0 16 15<br>1 16 16<br>2 16 16 | 10 43<br>10 43<br>10 42<br>10 40<br>10 38<br>10 34<br>10 30 | 10 49<br>10 48<br>10 47<br>10 46<br>10 45<br>10 44<br>10 42 | 1 11<br>1 13<br>1 15<br>1 17<br>1 19<br>1 21<br>1 23<br>1 25 | 4 22 2 49<br>4 23 2 49<br>4 23 2 49<br>4 24 2 49<br>4 25 2 48<br>4 26 2 48<br>4 27 2 48<br>4 27 2 48 |

Julian Day Number = 2531532.5, Delta T = 182.76 sec Ecliptic obliquity =  $23^{\circ}24'30$ , Nutation =  $0^{\circ}00'09$ , out-of-bounds declination in red Ayanamsha: Fagan/Bradley =  $27^{\circ}48'03$ , Lahiri =  $26^{\circ}55'04$ 

FEBRUARY 2219 00:00 UT

| Day  | Sid.t    | 0                | D                | Ϋ́    | φ             | ð              | 4              | ħ               | )∤(            | 卉            | Р             | r              | v              | Ç              | ķ            | Day  |
|------|----------|------------------|------------------|-------|---------------|----------------|----------------|-----------------|----------------|--------------|---------------|----------------|----------------|----------------|--------------|------|
| M 1  | 8 41 57  | 11≈16'27         | 17 <b>Ω</b> 8    | 9°R 4 | 6 <b>ප</b> 38 | 23 <b>ჲ</b> 20 | 5 <b>M</b> .35 | 12 <b>M</b> .33 | 27°R33         | 5°R 8        | 3°R 3         | 26°R49         | 27 <u>₽</u> 47 | 27 <b>m</b> 45 | <b>4Υ4</b> 9 | M 1  |
| T 2  | 8 45 54  | 12°17'23         | 29°20            | 7≈49  | 7°52          | 23°37          | 5°38           | 12°35           | 27 <b>m</b> 31 | 5 <b>I</b> 7 | 3 <b>₾</b> 2  | 26 <b>♀</b> 37 | 27°43          | 27°52          | 4°52         | T 2  |
| W 3  | 8 49 50  | 13°18'18         | 11 <b>m</b> 22   | 6°38  | 9° 5          | 23°54          | 5°42           | 12°37           | 27°29          | 5° 7         | 3° 1          | 26°26          | 27°40          | 27°58          | 4°54         | W 3  |
| T 4  | 8 53 47  | 14°19'12         | 23°16            | 5°31  | 10°19         | 24°10          | 5°45           | 12°39           | 27°28          | 5° 7         | 3° 0          | 26°19          | 27°37          | 28° 5          | 4°57         | T 4  |
| F 5  | 8 57 43  | 15°20'06         | 5 <b>♀</b> 4     | 4°31  | 11°33         | 24°25          | 5°48           | 12°41           | 27°26          | 5° 6         | 2°59          | 26°14          | 27°34          | 28°12          | 4°59         | F 5  |
| S 6  | 9 1 40   | 16°20'59         | 16°51            | 3°38  | 12°46         | 24°41          | 5°51           | 12°42           | 27°24          | 5° 6         | 2°58          | 26°12          | 27°31          | 28°18          | 5° 2         | S 6  |
| S 7  | 9 5 3 7  | 17°21'50         | 28°41            | 2°53  | 14° 0         | 24°55          | 5°53           | 12°44           | 27°23          | 5° 6         | 2°57          | 26°D11         | 27°27          | 28°25          | 5° 4         | S 7  |
| M 8  | 9 9 33   | 18°22'42         | 10 <b>M</b> .38  | 2°17  | 15°13         | 25° 9          | 5°56           | 12°45           | 27°21          | 5° 5         | 2°56          | 26°12          | 27°24          | 28°32          | 5° 7         | M 8  |
| T 9  | 9 13 30  | 19°23'32         | 22°49            | 1°49  | 16°27         | 25°23          | 5°58           | 12°47           | 27°19          | 5° 5         | 2°55          | 26°R12         | 27°21          | 28°38          | 5°10         | T 9  |
| W10  | 9 17 26  | 20°24'21         | 5 <b>₹</b> 18    | 1°30  | 17°41         | 25°36          | 6° 0           | 12°48           | 27°17          | 5° 5         | 2°54          | 26°11          | 27°18          | 28°45          | 5°13         | W10  |
| T 11 | 9 21 23  | 21°25'10         | 18°12            | 1°19  | 18°54         | 25°49          | 6° 2           | 12°49           | 27°15          | 5° 5         | 2°53          | 26° 7          | 27°15          | 28°52          | 5°15         | T 11 |
| F 12 | 9 25 19  | 22°25'58         | 1 <b>る</b> 32    | 1°D15 | 20° 8         | 26° 1          | 6° 3           | 12°50           | 27°13          | 5° 5         | 2°52          | 26° 2          | 27°12          | 28°58          | 5°18         | F 12 |
| S 13 | 9 29 16  | 23°26'44         | 15°22            | 1°20  | 21°22         | 26°13          | 6° 5           | 12°51           | 27°11          | 5° 5         | 2°51          | 25°54          | 27° 8          | 29° 5          | 5°21         | S 13 |
| S 14 | 9 33 12  | 24°27'30         | 29°39            | 1°31  | 22°36         | 26°24          | 6° 6           | 12°52           | 27° 9          | 5° 5         | 2°49          | 25°44          | 27° 5          | 29°12          | 5°24         | S 14 |
| M15  | 9 37 9   | 25°28'14         | 14≈21            | 1°48  | 23°50         | 26°34          | 6° 7           | 12°52           | 27° 7          | 5°D 5        | 2°48          | 25°34          | 27° 2          | 29°18          | 5°27         | M15  |
| T 16 | 9 41 6   | 26°28'57         | 29°18            | 2°11  | 25° 3         | 26°44          | 6° 8           | 12°53           | 27° 5          | 5° 5         | 2°47          | 25°25          | 26°59          | 29°25          | 5°30         | T 16 |
| W17  | 9 45 2   | 27°29'39         | 14 <b>) (</b> 23 | 2°40  | 26°17         | 26°53          | 6° 9           | 12°53           | 27° 3          | 5° 5         | 2°46          | 25°17          | 26°56          | 29°32          | 5°33         | W17  |
| T 18 | 9 48 59  | 28°30'19         | 29°25            | 3°14  | 27°31         | 27° 2          | 6°10           | 12°54           | 27° 1          | 5° 5         | 2°45          | 25°12          | 26°53          | 29°38          | 5°36         | T 18 |
| F 19 | 9 52 55  | 29°30'58         | 14 <b>Y</b> 16   | 3°52  | 28°45         | 27°10          | 6°10           | 12°54           | 26°58          | 5° 5         | 2°43          | 25°10          | 26°49          | 29°45          | 5°39         | F 19 |
| S 20 | 9 56 52  | 0 <b>∺</b> 31'35 | 28°49            | 4°35  | 29°59         | 27°17          | 6°R10          | 12°54           | 26°56          | 5° 5         | 2°42          | 25°D 9         | 26°46          | 29°52          | 5°42         | S 20 |
| S 21 | 10 048   | 1°32'10          | 138 2            | 5°22  | 1≈13          | 27°24          | 6°10           | 12°R54          | 26°54          | 5° 5         | 2°41          | 25°10          | 26°43          | 29°58          | 5°45         | S 21 |
| M22  | 10 4 45  | 2°32'43          | 26°52            | 6°12  | 2°26          | 27°30          | 6°10           | 12°54           | 26°52          | 5° 5         | 2°39          | 25°R11         | 26°40          | 0 <b>º</b> 5   | 5°48         | M22  |
| T 23 | 10 8 41  | 3°33'15          | 10Ⅲ22            | 7° 6  | 3°40          | 27°36          | 6° 9           | 12°54           | 26°49          | 5° 6         | 2°38          | 25°11          | 26°37          | 0°12           | 5°51         | T 23 |
| W24  | 10 12 38 | 4°33'45          | 23°33            | 8° 2  | 4°54          | 27°41          | 6° 9           | 12°54           | 26°47          | 5° 6         | 2°36          | 25° 9          | 26°33          | 0°18           | 5°54         | W24  |
| T 25 | 10 16 35 | 5°34'13          | 6927             | 9° 2  | 6° 8          | 27°45          | 6° 8           | 12°54           | 26°45          | 5° 6         | 2°35          | 25° 5          | 26°30          | 0°25           | 5°57         | T 25 |
| F 26 | 10 20 31 | 6°34'39          | 19° 7            | 10° 4 | 7°22          | 27°48          | 6° 7           | 12°53           | 26°42          | 5° 7         | 2°34          | 24°58          | 26°27          | 0°32           | 6° 1         | F 26 |
| S 27 | 10 24 28 | 7°35'04          | 1 <b>Ω</b> 34    | 11° 8 | 8°36          | 27°51          | 6° 6           | 12°53           | 26°40          | 5° 7         | 2°32          | 24°51          | 26°24          | 0°38           | 6° 4         | S 27 |
| S 28 | 10 28 24 | 8 <b>¥</b> 35'26 | 13 <b>£</b> 52   | 12≈15 | 9≈50          | 27 <b>⊈</b> 53 | 6 <b>M</b> 5   | 12 <b>M</b> 52  | 26 <b>m</b> 37 | 5 <b>I</b> 8 | 2 <b>≏</b> 31 | 24 <b>≏</b> 42 | 26 <b>₽</b> 21 | 0 <b>≙</b> 45  | 6 <b>℃</b> 7 | S 28 |

| Day  | 0      | 2     | )       | ţ      | 5    | Ç      | 2     | ď     | 1    | 2      | +    | ħ      | ì    | )į   | γ(   | J     | ŧ.    | E     | 2     | n      | v      | Ç     | ç    |      |
|------|--------|-------|---------|--------|------|--------|-------|-------|------|--------|------|--------|------|------|------|-------|-------|-------|-------|--------|--------|-------|------|------|
|      | decl   | decl  | lat     | decl   | lat  | decl   | lat   | decl  | lat  | decl   | lat  | decl   | lat  | decl | lat  | decl  | lat   | decl  | lat   | decl   | decl   | decl  | decl | lat  |
| M 1  | 17 s22 | 11n12 | 4 s42   | 14 s35 | 3n30 | 22 s12 | 1n 3  | 6 s42 | 2n32 | 12 s 8 | 1n18 | 13 s16 | 2n26 | 1n42 | 0n48 | 19n31 | 1 s38 | 13n43 | 16n17 | 10 s20 | 10 s40 | 1 s28 | 4n29 | 2n48 |
| T 2  | 17 5   | 7 44  | 4 14    | 14 50  | 3 34 | 22 11  | 1 0   | 6 47  | 2 33 | 12 9   | 1 19 | 13 16  | 2 27 | 1 43 | 0 48 | 19 31 | 1 38  | 13 44 | 16 18 | 10 15  | 10 39  | 1 30  | 4 29 | 2 47 |
| W 3  | 16 48  | 3 59  | 3 34    | 15 6   | 3 36 | 22 9   | 0 57  | 6 53  | 2 34 | 12 10  | 1 19 | 13 16  | 2 27 | 1 44 | 0 48 | 19 31 | 1 38  | 13 45 | 16 18 | 10 11  | 10 38  | 1 32  | 4 30 | 2 47 |
| T 4  | 16 31  | 0 8   | 2 46    | 15 23  | 3 35 | 22 7   | 0 54  | 6 58  | 2 34 | 12 11  | 1 19 | 13 17  | 2 27 | 1 44 | 0 48 | 19 31 | 1 38  | 13 45 | 16 19 | 10 9   | 10 37  | 1 34  | 4 31 | 2 47 |
| F 5  | 16 13  | 3 s42 | 1 50    | 15 40  | 3 32 | 22 4   | 0 51  | 7 3   | 2 35 | 12 11  | 1 19 | 13 17  | 2 27 | 1 45 | 0 48 | 19 31 | 1 38  | 13 46 | 16 19 | 10 7   | 10 36  | 1 36  | 4 32 | 2 47 |
| S 6  | 15 55  | 7 23  | 0 50    | 15 57  | 3 27 | 22 0   | 0 48  | 7 8   | 2 36 | 12 12  | 1 19 | 13 17  | 2 28 | 1 46 | 0 48 | 19 31 | 1 38  | 13 47 | 16 20 | 10 6   | 10 34  | 1 38  | 4 33 | 2 47 |
| S 7  | 15 37  | 10 47 | 0n13    | 16 14  | 3 21 | 21 56  | 0 45  | 7 12  | 2 37 | 12 13  | 1 20 | 13 18  | 2 28 | 1 46 | 0 48 | 19 31 | 1 38  | 13 48 | 16 20 | 10 6   | 10 33  | 1 40  | 4 34 | 2 46 |
| M 8  | 15 18  | 13 47 | 1 16    | 16 30  | 3 13 | 21 51  | 0 41  | 7 17  | 2 37 | 12 13  | 1 20 | 13 18  | 2 28 | 1 47 | 0 48 | 19 31 | 1 38  | 13 49 | 16 21 | 10 6   | 10 32  | 1 42  | 4 34 | 2 46 |
| T 9  | 14 59  | 16 14 | 2 17    | 16 45  | 3 4  | 21 46  | 0 38  | 7 21  | 2 38 | 12 14  | 1 20 | 13 18  | 2 28 | 1 48 | 0 48 | 19 31 | 1 38  | 13 49 | 16 21 | 10 6   | 10 31  | 1 44  | 4 35 | 2 46 |
| W10  | 14 40  | 18 0  | 3 13    | 16 59  | 2 54 | 21 40  | 0 35  | 7 25  | 2 39 | 12 14  | 1 20 | 13 18  | 2 28 | 1 49 | 0 48 | 19 31 | 1 38  | 13 50 | 16 21 | 10 6   | 10 30  | 1 46  | 4 36 | 2 46 |
| T 11 | 14 21  | 18 53 | 4 1     | 17 11  | 2 43 | 21 33  | 0 32  | 7 29  | 2 40 | 12 15  | 1 21 | 13 18  | 2 29 | 1 49 | 0 48 | 19 31 | 1 38  | 13 51 | 16 22 | 10 4   | 10 29  | 1 48  | 4 37 | 2 46 |
| F 12 | 14 1   | 18 47 | 4 37    | 17 23  | 2 32 | 21 25  | 0 29  | 7 33  | 2 40 | 12 15  | 1 21 | 13 18  | 2 29 | 1 50 | 0 48 | 19 31 | 1 38  | 13 52 | 16 22 | 10 2   | 10 28  | 1 50  | 4 38 | 2 46 |
| S 13 | 13 41  | 17 34 | 4 59    | 17 34  | 2 20 | 21 17  | 0 26  | 7 36  | 2 41 | 12 15  | 1 21 | 13 18  | 2 29 | 1 51 | 0 48 | 19 31 | 1 38  | 13 53 | 16 23 | 10 0   | 10 26  | 1 52  | 4 39 | 2 45 |
| S 14 | 13 21  | 15 15 | 5 4     | 17 43  | 2 8  | 21 8   | 0 23  | 7 39  | 2 42 | 12 16  | 1 21 | 13 18  | 2 29 | 1 52 | 0 48 | 19 31 | 1 37  | 13 53 | 16 23 | 9 56   | 10 25  | 1 54  | 4 40 | 2 45 |
| M15  | 13 1   | 11 54 | 4 48    | 17 51  | 1 56 | 20 59  | 0 20  | 7 43  | 2 42 | 12 16  | 1 21 | 13 18  | 2 30 | 1 53 | 0 48 | 19 31 | 1 37  | 13 54 | 16 23 | 9 52   | 10 24  | 1 56  | 4 41 | 2 45 |
| T 16 | 12 40  | 7 44  | 4 13    | 17 58  | 1 44 | 20 49  | 0 17  | 7 45  | 2 43 | 12 16  | 1 22 | 13 18  | 2 30 |      | 0 48 | 19 31 | 1 37  | 13 55 | 16 24 | 9 49   | 10 23  | 1 57  | 4 42 | 2 45 |
| W17  | 12 20  | 3 3   | 3 20    | 18 3   | 1 32 | 20 39  | 0 14  | 7 48  | 2 44 | 12 16  | 1 22 | 13 18  | 2 30 | 1 54 | 0 48 | 19 31 | 1 37  | 13 56 | 16 24 | 9 46   | 10 22  | 1 59  | 4 43 | 2 45 |
| T 18 | 11 59  | 1n49  | 2 13    | 18 7   | 1 20 | 20 27  | 0 11  | 7 51  | 2 44 | 12 16  | 1 22 | 13 18  | 2 30 | 1 55 | 0 48 | 19 31 | 1 37  |       | -     | 9 44   | 10 21  | 2 1   | 4 44 | 2 45 |
| F 19 | 11 38  | 6 31  | 0 58    | 18 9   | 1 8  | 20 16  | 0 8   | 7 53  | 2 45 | 12 16  | 1 22 | 13 18  | 2 31 | 1 56 | 0 48 | 19 31 | 1 37  | 13 58 | 16 25 | 9 43   | 10 20  | 2 3   | 4 45 | 2 44 |
| S 20 | 11 16  | 10 44 | 0 s 2 0 | 18 11  | 0 57 | 20 3   | 0 5   | 7 55  | 2 46 | 12 16  | 1 23 | 13 18  | 2 31 | 1 57 | 0 48 | 19 32 | 1 37  | 13 58 | 16 25 | 9 43   | 10 18  | 2 5   | 4 46 | 2 44 |
| S 21 | 10 55  | 14 13 | 1 35    | 18 10  | 0 45 | 19 50  | 0 2   | 7 57  | 2 46 | 12 15  | 1 23 | 13 17  | 2 31 | 1 58 | 0 48 | 19 32 | 1 37  | 13 59 | 16 25 | 9 44   | 10 17  | 2 7   | 4 48 | 2 44 |
| M22  | 10 33  | 16 48 | 2 42    | 18 9   | 0 34 | 19 37  | 0 s 1 | 7 58  | 2 47 | 12 15  | 1 23 | 13 17  | 2 31 | 1 59 | 0 48 | 19 32 | 1 37  | 14 0  | 16 26 | 9 44   | 10 16  | 2 9   | 4 49 | 2 44 |
| T 23 | 10 11  | 18 22 | 3 39    | 18 6   | 0 23 | 19 23  | 0 4   | 8 0   | 2 47 | 12 15  | 1 23 | 13 17  | 2 32 | 2 0  | 0 48 | 19 32 | 1 37  | 14 1  | 16 26 | 9 44   | 10 15  | 2 11  | 4 50 | 2 44 |
| W24  | 9 50   | 18 53 | 4 22    | 18 2   | 0 13 | 19 8   | 0 7   | 8 1   | 2 48 | 12 14  | 1 23 | 13 17  | 2 32 | 2 1  | 0 48 | 19 32 | 1 37  | 14 2  | 16 26 | 9 43   | 10 14  | 2 13  | 4 51 | 2 44 |
| T 25 | 9 27   | 18 24 | 4 52    | 17 56  | 0 3  | 18 53  | 0 10  | 8 2   | 2 49 | 12 14  | 1 24 | 13 16  | 2 32 | 2 2  | 0 48 | 19 32 | 1 37  | 14 2  | 16 27 | 9 42   | 10 13  | 2 15  | 4 52 | 2 44 |
| F 26 | 9 5    | 17 0  | 5 6     | 17 49  | 0s 7 | 18 37  | 0 13  | 8 3   | 2 49 | 12 13  | 1 24 | 13 16  | 2 32 | 2 3  | 0 48 | 19 32 | 1 37  | 14 3  | 16 27 | 9 39   | 10 12  | 2 17  | 4 53 | 2 43 |
| S 27 | 8 43   | 14 49 | 5 5     | 17 41  | 0 17 | 18 21  | 0 16  | 8 3   | 2 50 | 12 13  | 1 24 | 13 15  | 2 33 | 2 4  | 0 48 | 19 32 | 1 37  | 14 4  | 16 27 | 9 36   | 10 10  | 2 19  | 4 54 | 2 43 |
| S 28 | 8 s20  | 12n 0 | 4s51    | 17s31  | 0s26 | 18s 4  | 0s19  | 8s 4  | 2n50 | 12 s12 | 1n24 | 13 s15 | 2n33 | 2n 5 | 0n48 | 19n33 | 1 s37 | 14n 5 | 16n28 | 9 s33  | 10s 9  | 2 s20 | 4n56 | 2n43 |

Julian Day Number = 2531563.5, Delta T = 182.85 sec Ecliptic obliquity =  $23^{\circ}24'31$ , Nutation =  $0^{\circ}00'10$ , out-of-bounds declination in red Ayanamsha: Fagan/Bradley =  $27^{\circ}48'07$ , Lahiri =  $26^{\circ}55'08$ 

MARCH 2219 00:00 UT

| Day  | Sid.t    | 0                | D              | ğ              | φ             | ď              | 4              | ħ               | )∤(            | #             | Р             | ß              | Ω              | Ç             | ķ             | Day  |
|------|----------|------------------|----------------|----------------|---------------|----------------|----------------|-----------------|----------------|---------------|---------------|----------------|----------------|---------------|---------------|------|
| M 1  | 10 32 21 | 9 <b>)</b> 35'47 | 26₽ 1          | 13≈24          | 11≈ 4         | 27 <b>Ω</b> 55 | 6°R 3          | 12°R51          | 26°R35         | 5 <b>I</b> 8  | 2°R29         | 24°R33         | 26₽18          | 0 <b>ჲ</b> 51 | 6 <b>Υ</b> 11 | M 1  |
| T 2  | 10 36 17 | 10°36'06         | 8Mp 2          | 14°35          | 12°18         | 27°R55         | 6 <b>M</b> 1   | 12 <b>M</b> 50  | 26 <b>m</b> 33 | 5° 9          | 2 <b>≏</b> 28 | 24 <b>Ω</b> 25 | 26°14          | 0°58          | 6°14          | T 2  |
| W 3  | 10 40 14 | 11°36'23         | 19°56          | 15°48          | 13°32         | 27°55          | 5°59           | 12°49           | 26°30          | 5° 9          | 2°26          | 24°18          | 26°11          | 1° 5          | 6°17          | W 3  |
| T 4  | 10 44 10 | 12°36'39         | 1 <b>≏</b> 46  | 17° 3          | 14°46         | 27°55          | 5°57           | 12°48           | 26°28          | 5°10          | 2°25          | 24°13          | 26° 8          | 1°11          | 6°20          | T 4  |
| F 5  | 10 48 7  | 13°36'53         | 13°34          | 18°19          | 16° 0         | 27°53          | 5°55           | 12°47           | 26°25          | 5°10          | 2°23          | 24°11          | 26° 5          | 1°18          | 6°24          | F 5  |
| S 6  | 10 52 3  | 14°37'05         | 25°22          | 19°37          | 17°14         | 27°51          | 5°53           | 12°46           | 26°22          | 5°11          | 2°22          | 24°D10         | 26° 2          | 1°25          | 6°27          | S 6  |
| S 7  | 10 56 0  | 15°37'16         | 7 <b>M</b> L13 | 20°56          | 18°28         | 27°48          | 5°50           | 12°44           | 26°20          | 5°12          | 2°20          | 24°11          | 25°59          | 1°31          | 6°31          | S 7  |
| M 8  | 10 59 57 | 16°37'25         | 19°12          | 22°17          | 19°42         | 27°44          | 5°47           | 12°43           | 26°17          | 5°12          | 2°19          | 24°12          | 25°55          | 1°38          | 6°34          | M 8  |
| T 9  | 11 3 53  | 17°37'33         | 1 <b>₹</b> 23  | 23°40          | 20°56         | 27°40          | 5°44           | 12°41           | 26°15          | 5°13          | 2°17          | 24°14          | 25°52          | 1°45          | 6°37          | T 9  |
| W10  | 11 7 50  | 18°37'39         | 13°50          | 25° 3          | 22°10         | 27°34          | 5°41           | 12°40           | 26°12          | 5°14          | 2°16          | 24°R15         | 25°49          | 1°51          | 6°41          | W10  |
| T 11 | 11 11 46 | 19°37'44         | 26°38          | 26°29          | 23°24         | 27°28          | 5°38           | 12°38           | 26°10          | 5°15          | 2°14          | 24°15          | 25°46          | 1°58          | 6°44          | T 11 |
| F 12 | 11 15 43 | 20°37'47         | 9 <b>궁</b> 52  | 27°55          | 24°38         | 27°21          | 5°34           | 12°36           | 26° 7          | 5°15          | 2°12          | 24°13          | 25°43          | 2° 5          | 6°48          | F 12 |
| S 13 | 11 19 39 | 21°37'48         | 23°34          | 29°23          | 25°52         | 27°14          | 5°31           | 12°34           | 26° 4          | 5°16          | 2°11          | 24°10          | 25°39          | 2°11          | 6°51          | S 13 |
| S 14 | 11 23 36 | 22°37'48         | 7≈44           | 0 <b>)</b> 52  | 27° 6         | 27° 5          | 5°27           | 12°32           | 26° 2          | 5°17          | 2° 9          | 24° 6          | 25°36          | 2°18          | 6°55          | S 14 |
| M15  | 11 27 32 | 23°37'47         | 22°21          | 2°22           | 28°20         | 26°56          | 5°23           | 12°30           | 25°59          | 5°18          | 2° 8          | 24° 2          | 25°33          | 2°25          | 6°58          | M15  |
| T 16 | 11 31 29 | 24°37'43         | 7 <b>∺</b> 20  | 3°54           | 29°34         | 26°46          | 5°18           | 12°28           | 25°57          | 5°19          | 2° 6          | 23°57          | 25°30          | 2°31          | 7° 2          | T 16 |
| W17  | 11 35 26 | 25°37'37         | 22°31          | 5°26           | 0 <b>)</b> 48 | 26°35          | 5°14           | 12°25           | 25°54          | 5°20          | 2° 4          | 23°54          | 25°27          | 2°38          | 7° 5          | W17  |
| T 18 | 11 39 22 | 26°37'30         | 7 <b>Ƴ</b> 45  | 7° 0           | 2° 2          | 26°24          | 5°10           | 12°23           | 25°51          | 5°21          | 2° 3          | 23°52          | 25°24          | 2°45          | 7° 9          | T 18 |
| F 19 | 11 43 19 | 27°37'21         | 22°52          | 8°35           | 3°16          | 26°11          | 5° 5           | 12°20           | 25°49          | 5°22          | 2° 1          | 23°D51         | 25°20          | 2°51          | 7°13          | F 19 |
| S 20 | 11 47 15 | 28°37'09         | 7 <b>8</b> 44  | 10°12          | 4°30          | 25°58          | 5° 0           | 12°18           | 25°46          | 5°23          | 1°59          | 23°51          | 25°17          | 2°58          | 7°16          | S 20 |
| S 21 | 11 51 12 | 29°36'56         | 22°13          | 11°49          | 5°44          | 25°44          | 4°55           | 12°15           | 25°43          | 5°24          | 1°58          | 23°53          | 25°14          | 3° 5          | 7°20          | S 21 |
| M22  | 11 55 8  | 0 <b>Ƴ</b> 36'40 | 6 <b>Ⅱ</b> 18  | 13°28          | 6°58          | 25°30          | 4°50           | 12°12           | 25°41          | 5°26          | 1°56          | 23°54          | 25°11          | 3°11          | 7°23          | M22  |
| T 23 | 11 59 5  | 1°36'22          | 19°57          | 15° 8          | 8°13          | 25°15          | 4°45           | 12°10           | 25°38          | 5°27          | 1°55          | 23°55          | 25° 8          | 3°18          | 7°27          | T 23 |
| W24  | 12 3 1   | 2°36'02          | 39911          | 16°49          | 9°27          | 24°59          | 4°39           | 12° 7           | 25°36          | 5°28          | 1°53          | 23°R56         | 25° 4          | 3°25          | 7°30          | W24  |
| T 25 | 12 6 58  | 3°35'39          | 16° 3          | 18°31          | 10°41         | 24°42          | 4°34           | 12° 4           | 25°33          | 5°29          | 1°51          | 23°55          | 25° 1          | 3°31          | 7°34          | T 25 |
| F 26 | 12 10 55 | 4°35'14          | 28°37          | 20°15          | 11°55         | 24°25          | 4°28           | 12° 1           | 25°30          | 5°30          | 1°50          | 23°54          | 24°58          | 3°38          | 7°38          | F 26 |
| S 27 | 12 14 51 | 5°34'47          | 10 <b>N</b> 56 | 22° 0          | 13° 9         | 24° 7          | 4°22           | 11°57           | 25°28          | 5°32          | 1°48          | 23°51          | 24°55          | 3°45          | 7°41          | S 27 |
| S 28 | 12 18 48 | 6°34'18          | 23° 3          | 23°46          | 14°23         | 23°49          | 4°16           | 11°54           | 25°25          | 5°33          | 1°46          | 23°49          | 24°52          | 3°51          | 7°45          | S 28 |
| M29  | 12 22 44 | 7°33'46          | 5 Mg 2         | 25°34          | 15°37         | 23°30          | 4°10           | 11°51           | 25°23          | 5°34          | 1°45          | 23°46          | 24°49          | 3°58          | 7°48          | M29  |
| T 30 | 12 26 41 | 8°33'13          | 16°55          | 27°23          | 16°51         | 23°11          | 4° 4           | 11°48           | 25°20          | 5°36          | 1°43          | 23°44          | 24°45          | 4° 4          | 7°52          | T 30 |
| W31  | 12 30 37 | 9 <b>Ƴ</b> 32'37 | 28 <b>M</b> 44 | 29 <b>米</b> 13 | 18 <b>米</b> 5 | 22 <b>≏</b> 51 | 3 <b>M</b> .57 | 11 <b>M</b> .44 | 25 <b>m</b> 18 | 5 <b>Ⅱ</b> 37 | 1 <b>≏</b> 41 | 23 <b>≏</b> 42 | 24 <b>≏</b> 42 | 4 <b>₽</b> 11 | 7 <b>Y</b> 56 | W31  |

| Day  | 0   | D   | ğ  | Q  | ♂  | 4  | ħ   | )Å(  | 并  | Р  | v 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   |
| M 1<br>T 2   | 7 s58<br>7 35                               | 5 5 3 44  | 17 8 0 4   |  | 8 s 4 2 n 5 1<br>8 3 2 5 1   | 12 s12 1 n24<br>12 11 1 25                           | 13 14 2 33  | 2 7 0 48   | 19 33 1 37   | 14 7 16 28   | 9 s 30 10 s 8<br>9 27 10 7  | 2 s22<br>2 24   | 4n57 2n43<br>4 58 2 43   |
| W 3<br>T 4<br>F 5  | 7 12<br>6 49<br>6 26                        | 2s31 1 59   |  | 2 17 10 0 27<br>0 16 51 0 29<br>7 16 32 0 32   | 8 3 2 52<br>8 2 2 52<br>8 1 2 52   | 12 9 1 25  | 13 13 2 34  | 2 9 0 48   | 19 33 1 36   | 14 8 16 29   | 9 25 10 6<br>9 23 10 5<br>9 22 10 4   | 2 26<br>2 28<br>2 30                                    | 4 59 2 43<br>5 0 2 43<br>5 2 2 43  |
| S 6<br>S 7   | 6 3<br>5 40                                 |   | 16 6 1 14<br>15 47 1 2   |  | 8 0 2 53<br>7 59 2 53  |  |   |  |  | 14 10 16 29<br>14 11 16 29   | 9 22 10 2<br>9 22 10 1  | 2 32 2 34   | 5 3 2 42<br>5 4 2 42   |
| M 8<br>T 9<br>W10  | 4 53  |   | 15 27 1 2<br>15 5 1 3<br>14 43 1 3   | 7 15 31 0 40<br>4 15 10 0 42   | 7 57 2 53<br>7 56 2 54<br>7 53 2 54                                      | 12 5 1 26<br>12 4 1 26                               | 13 10 2 35  | 2 13 0 48<br>2 14 0 48   | 19 34 1 36<br>19 34 1 36<br>19 34 1 36   | 14 12 16 30  | 9 22 10 0<br>9 23 9 59<br>9 23 9 58   | 2 36<br>2 38<br>2 40                                    | 5 5 2 42<br>5 7 2 42<br>5 8 2 42   |
| T 11<br>F 12<br>S 13                                       | 4 6<br>3 43                                 | 18 44 4 38<br>18 0 5 3  | 14 43 1 35<br>14 19 1 4<br>13 54 1 45<br>13 27 1 54                        | 4 14 26 0 47<br>9 14 4 0 49  | 7 51 2 54<br>7 49 2 54   | 12 1 1 26  | 13 9 2 35<br>13 8 2 35  | 2 16 0 48<br>2 17 0 48   | 19 34 1 36<br>19 35 1 36   | 14 14 16 30<br>14 15 16 30   | 9 23 9 57<br>9 23 9 57<br>9 23 9 55<br>9 22 9 54  | 2 41<br>2 43<br>2 45                                    | 5 9 2 42<br>5 10 2 42<br>5 12 2 42   |
| S 14<br>M15<br>T 16<br>W17<br>T 18<br>F 19                 | 2 55<br>2 32<br>2 8<br>1 44<br>1 20<br>0 57 | 9 41 4 36<br>5 17 3 48<br>0 28 2 44<br>4n25 1 27<br>8 58 0 5  | 12 1 2 :<br>11 29 2 :<br>10 57 2 1<br>10 23 2 1:                           | 2 12 55 0 56<br>5 12 31 0 58<br>8 12 6 1 0<br>1 11 42 1 2<br>3 11 17 1 4             | 7 39 2 54<br>7 36 2 54<br>7 32 2 54<br>7 28 2 54<br>7 24 2 54            | 11 54 1 27<br>11 53 1 27<br>11 51 1 28<br>11 49 1 28 | 13 5 2 36<br>13 5 2 36<br>13 4 2 36<br>13 3 2 37<br>13 2 2 37                   | 2 20 0 48<br>2 21 0 48<br>2 22 0 48<br>2 23 0 48<br>2 24 0 48              | 19 35 1 36<br>19 36 1 36<br>19 36 1 36<br>19 36 1 36                             | 14 17 16 31<br>14 18 16 31<br>14 18 16 31<br>14 19 16 31<br>14 20 16 31                | 9 20 9 53<br>9 19 9 52<br>9 17 9 51<br>9 16 9 50<br>9 15 9 49<br>9 15 9 47              | 2 47<br>2 49<br>2 51<br>2 53<br>2 55<br>2 57            | 5 13 2 42<br>5 14 2 41<br>5 16 2 41<br>5 17 2 41<br>5 18 2 41<br>5 19 2 41 |
| S 20<br>S 21<br>M22<br>T 23<br>W24<br>T 25<br>F 26<br>S 27 | 0 9<br>0n15<br>0 38<br>1 2<br>1 26<br>1 49  | 12 52 1s16<br>15 53 2 30<br>17 50 3 33<br>18 40 4 22<br>18 27 4 55<br>17 16 5 13<br>15 16 5 15<br>12 37 5 2 | 9 13 2 1:<br>8 35 2 10<br>7 57 2 1'<br>7 18 2 1'<br>6 37 2 10<br>5 55 2 1: | 5 10 26 1 7<br>6 10 1 1 9<br>7 9 35 1 11<br>7 9 8 1 12<br>6 8 42 1 14<br>5 8 15 1 15 | 7 15 2 53<br>7 10 2 53<br>7 5 2 52<br>7 0 2 52<br>6 54 2 51<br>6 49 2 50 | 11 42 1 28<br>11 40 1 28                             | 13 0 2 37<br>12 59 2 37<br>12 58 2 38<br>12 57 2 38<br>12 56 2 38<br>12 55 2 38 | 2 26 0 48<br>2 27 0 48<br>2 28 0 48<br>2 29 0 48<br>2 30 0 48<br>2 31 0 48 | 19 37 1 35<br>19 37 1 35<br>19 37 1 35<br>19 37 1 35<br>19 38 1 35<br>19 38 1 35 | 14 21 16 31<br>14 22 16 31<br>14 23 16 31<br>14 23 16 31<br>14 24 16 31<br>14 25 16 32 | 9 15 9 46<br>9 15 9 45<br>9 16 9 44<br>9 16 9 42<br>9 16 9 40<br>9 16 9 39<br>9 15 9 38 | 2 59<br>3 0<br>3 2<br>3 4<br>3 6<br>3 8<br>3 10<br>3 12 | 5 23 2 41<br>5 25 2 41<br>5 26 2 41<br>5 28 2 41                           |
| S 28<br>M29<br>T 30<br>W31                                 | 2 36<br>3 0<br>3 23<br>3n47                 | 9 28 4 36<br>5 58 3 58<br>2 15 3 10<br>1 s 3 2 s 14   | 4 29 2 1<br>3 44 2 9<br>2 58 2 0   | 1 7 21 1 18<br>9 6 53 1 20<br>6 6 26 1 21  | 6 37 2 49<br>6 31 2 48<br>6 24 2 47                                      | 11 32 1 29<br>11 30 1 29<br>11 27 1 29               | 12 52 2 38  | 2 33 0 48<br>2 34 0 48<br>2 35 0 48  | 19 39 1 35<br>19 39 1 35<br>19 39 1 35   | 14 26 16 32<br>14 27 16 32<br>14 27 16 32  | 9 14 9 37<br>9 13 9 36<br>9 12 9 35<br>9 11 9 s 33                                      | 3 14<br>3 16<br>3 17<br>3 s19                           | 5 32 2 40<br>5 33 2 40<br>5 34 2 40  |

Julian Day Number = 2531591.5, Delta T = 182.94 sec Ecliptic obliquity =  $23^{\circ}24'31$ , Nutation =  $0^{\circ}00'09$ , out-of-bounds declination in red Ayanamsha: Fagan/Bradley =  $27^{\circ}48'11$ , Lahiri =  $26^{\circ}55'12$ 

APRIL 2219 00:00 UT

| Day       | Sid.t    | 0                    | D               | ğ            | φ              | ð              | 4              | ħ               | )∤(      | 并              | Р             | ₽.             | Ω              | Ç             | Š.            | Day  |
|-----------|----------|----------------------|-----------------|--------------|----------------|----------------|----------------|-----------------|----------|----------------|---------------|----------------|----------------|---------------|---------------|------|
| T 1       | 12 34 34 | 10 <b>°</b> 31'59    | 10 <b>≙</b> 32  | 1 <b>Υ</b> 4 | 19 <b>米</b> 19 | 22°R30         | 3°R51          | 11°R41          | 25°R15   | 5 <b>Ⅱ</b> 39  | 1°R40         | 23°R41         | 24 <b>Ω</b> 39 | 4 <b>₽</b> 18 | 7 <b>Υ</b> 59 | T 1  |
| F 2       | 12 38 30 | 11°31'19             | 22°21           | 2°57         | 20°33          | 22 <b>º</b> 9  | 3 <b>M</b> .45 | 11 <b>M</b> .37 | 25 Mp 13 | 5°40           | 1 <b>≏</b> 38 | 23°D40         | 24°36          | 4°24          | 8° 3          | F 2  |
| S 3       | 12 42 27 | 12°30'37             | 4 <b>M</b> .14  | 4°51         | 21°47          | 21°48          | 3°38           | 11°33           | 25°10    | 5°42           | 1°37          | 23 <u>₽</u> 40 | 24°33          | 4°31          | 8° 6          | S 3  |
| $ _{S}$ 4 | 12 46 23 | 13°29'53             | 16°11           | 6°47         | 23° 1          | 21°26          | 3°31           | 11°30           | 25° 8    | 5°43           | 1°35          | 23°41          | 24°30          | 4°38          | 8°10          | S 4  |
| M 5       | 12 40 23 | 13 29 33<br>14°29'07 | 28°17           | 8°43         | 24°15          | 21° 4          | 3°24           | 11°26           | 25° 5    | 5°45           | 1°33          | 23°42          | 24°26          | 4°44          | 8°14          | M 5  |
| T 6       | 12 50 20 | 15°28'19             | 10 <b>×</b> 734 | 10°41        | 25°29          | 20°42          | 3°17           | 11°22           | 25° 3    | 5°46           | 1°32          | 23°43          | 24°23          | 4°51          | 8°17          | T 6  |
| W 7       | 12 54 17 | 16°27'30             | 23° 6           | 12°41        | 26°43          | 20°20          | 3°10           | 11°18           | 25° 1    | 5°48           | 1°30          | 23°44          | 24°20          | 4°58          | 8°21          | W 7  |
| T 8       | 13 2 10  | 17°26'39             | 5 <b>3</b> 55   | 14°41        | 27°57          | 19°57          | 3° 3           | 11°14           | 24°58    | 5°49           | 1°29          | 23°44          | 24°17          | 5° 4          | 8°24          | T 8  |
| F 9       | 13 6 6   | 18°25'46             | 19° 5           | 16°43        | 29°11          | 19°34          | 2°56           | 11°10           | 24°56    | 5°51           | 1°27          | 23°R44         | 24°14          | 5°11          | 8°28          | F 9  |
| S 10      | 13 10 3  | 19°24'51             | 2≈38            | 18°45        | 0Υ25           | 19°11          | 2°49           | 11° 6           | 24°54    | 5°53           | 1°26          | 23°44          | 24°10          | 5°18          | 8°31          | S 10 |
|           |          |                      |                 |              |                | -              |                |                 |          |                |               |                |                |               |               |      |
| S 11      | 13 13 59 | 20°23'55             | 16°36           | 20°49        | 1°39           | 18°48          | 2°42           | 11° 2           | 24°51    | 5°54           | 1°24          | 23°44          | 24° 7          | 5°24          | 8°35          | S 11 |
| M12       | 13 17 56 | 21°22'57             | 0 <b>)</b> €59  | 22°53        | 2°53           | 18°25          | 2°34           | 10°58           | 24°49    | 5°56           | 1°23          | 23°44          | 24° 4          | 5°31          | 8°38          | M12  |
| T 13      | 13 21 52 | 22°21'57             | 15°42           | 24°58        | 4° 7           | 18° 1          | 2°27           | 10°54           | 24°47    | 5°58           | 1°21          | 23°43          | 24° 1          | 5°38          | 8°42          | T 13 |
| W14       | 13 25 49 | 23°20'55             | 0 <b>Υ</b> 42   | 27° 3        | 5°21           | 17°38          | 2°19           | 10°50           | 24°45    | 5°59           | 1°19          | 23°D43         | 23°58          | 5°44          | 8°46          | W14  |
| T 15      | 13 29 46 | 24°19'51             | 15°50           | 29° 9        | 6°35           | 17°15          | 2°12           | 10°46           | 24°42    | 6° 1<br>6° 3   | 1°18          | 23°R43         | 23°55          | 5°51          | 8°49          | T 15 |
| F 16      | 13 33 42 | 25°18'46             | 0 <b>8</b> 57   | 1815         | 7°49           | 16°52          | 2° 4           | 10°41           | 24°40    |                | 1°17          | 23°43          | 23°51          | 5°58          | 8°53          | F 16 |
| S 17      | 13 37 39 | 26°17'38             | 15°54           | 3°20         | 9° 3           | 16°30          | 1°57           | 10°37           | 24°38    | 6° 5           | 1°15          | 23°43          | 23°48          | 6° 4          | 8°56          | S 17 |
| S 18      | 13 41 35 | 27°16'29             | 0 <b>Ⅱ</b> 34   | 5°25         | 10°17          | 16° 7          | 1°49           | 10°33           | 24°36    | 6° 7           | 1°14          | 23°43          | 23°45          | 6°11          | 8°59          | S 18 |
| M19       | 13 45 32 | 28°15'17             | 14°50           | 7°29         | 11°31          | 15°45          | 1°41           | 10°28           | 24°34    | 6° 8           | 1°12          | 23°42          | 23°42          | 6°18          | 9° 3          | M19  |
| T 20      | 13 49 28 | 29°14'03             | 28°40           | 9°31         | 12°44          | 15°23          | 1°34           | 10°24           | 24°32    | 6°10           | 1°11          | 23°42          | 23°39          | 6°24          | 9° 6          | T 20 |
| W21       | 13 53 25 | 0 <b>8</b> 12'47     | 1295 3          | 11°32        | 13°58          | 15° 2          | 1°26           | 10°19           | 24°30    | 6°12           | 1° 9          | 23°41          | 23°36          | 6°31          | 9°10          | W21  |
| T 22      | 13 57 21 | 1°11'29              | 25° 0           | 13°32        | 15°12          | 14°41          | 1°18           | 10°15           | 24°28    | 6°14           | 1° 8          | 23°41          | 23°32          | 6°37          | 9°13          | T 22 |
| F 23      | 14 1 18  | 2°10'08              | $7\Omega$ 35    | 15°29        | 16°26          | 14°21          | 1°11           | 10°10           | 24°26    | 6°16           | 1° 7          | 23°D41         | 23°29          | 6°44          | 9°17          | F 23 |
| S 24      | 14 5 15  | 3° 8'45              | 19°53           | 17°23        | 17°40          | 14° 0          | 1° 3           | 10° 6           | 24°24    | 6°18           | 1° 5          | 23°41          | 23°26          | 6°51          | 9°20          | S 24 |
| S 25      | 14 9 11  | 4° 7'20              | 1 <b>m</b> 56   | 19°14        | 18°54          | 13°41          | 0°55           | 10° 1           | 24°22    | 6°20           | 1° 4          | 23°42          | 23°23          | 6°57          | 9°23          | S 25 |
| M26       | 14 13 8  | 5° 5'53              | 13°50           | 21° 3        | 20° 8          | 13°22          | 0°48           | 9°57            | 24°21    | 6°22           | 1° 3          | 23°43          | 23°20          | 7° 4          | 9°27          | M26  |
| T 27      | 14 17 4  | 6° 4'23              | 25°39           | 22°48        | 21°22          | 13° 3          | 0°40           | 9°52            | 24°19    | 6°24           | 1° 1          | 23°45          | 23°16          | 7°11          | 9°30          | T 27 |
| W28       | 14 21 1  | 7° 2'52              | 7 <b>₽</b> 26   | 24°29        | 22°36          | 12°46          | 0°32           | 9°48            | 24°17    | 6°26           | 1° 0          | 23°45          | 23°13          | 7°17          | 9°33          | W28  |
| T 29      | 14 24 57 | 8° 1'18              | 19°15           | 26° 7        | 23°49          | 12°28          | 0°25           | 9°43            | 24°16    | 6°28           | 0°59          | 23°R46         | 23°10          | 7°24          | 9°36          | T 29 |
| F 30      | 14 28 54 | 8 <b>8</b> 59'43     | 1 <b>M</b> 9    | 27840        | 25 <b>°</b> 3  | 12 <b>≏</b> 12 | 0 <b>™</b> 17  | 9 <b>M</b> .39  | 24 Mp 14 | 6 <b>II</b> 30 | 0 <u>ჲ</u> 58 | 23 <u>₽</u> 46 | 23 <b>♀</b> 7  | 7 <b>₽</b> 31 | 9 <b>Υ</b> 40 | F 30 |

| Day  | 0  | D   |  | ğ  | i   | φ   |  | ď  | 7  | 2                                | +   | ħ                                | ì.   | ) <sub>į</sub>                                       | <b>β</b> (                   | <del>,</del>                     | (  | Е                                | )   | n  | U  | ţ   | Š   | ;  |
|--|--|---|--|--|---|---|--|--|--|----------------------------------|---|----------------------------------|--|--|------------------------------|----------------------------------|--|----------------------------------|---|--|--|---|---|--|
|  | decl   | decl la                                   | at   | 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                                  | 4n10<br>4 33<br>4 56                               | 8 48                                      | 1 s12<br>0 7<br>0n58                             | 1 s23<br>0 34<br>0n15                                      | 1 s59<br>1 54<br>1 49                               | 5 s 3 0<br>5 2<br>4 3 4                           | 1 s23<br>1 24<br>1 25                                | 6s11<br>6 5<br>5 58                                | 2 44   | 11 s23<br>11 21<br>11 18         | 1n29<br>1 29<br>1 30                          | 12 47                            | 2n39<br>2 39<br>2 39                                 | 2n37<br>2 38<br>2 39                                 | 0 48                         | 19 40                            |  | 14n29<br>14 29<br>14 30          | 16 31                                     | 9 s 1 1<br>9 1 1<br>9 1 1                            | 9 s 3 2<br>9 3 1<br>9 3 0                        | 3 s21<br>3 23<br>3 25                             | 5n37<br>5 38<br>5 40                          | 2n40<br>2 40<br>2 40                                 |
| S 4<br>M 5<br>T 6<br>W 7<br>T 8                    | 5 19<br>5 42<br>6 5<br>6 28<br>6 50                | 16 49<br>18 10<br>18 40<br>18 14          | 2 2<br>3 1<br>3 52<br>4 34<br>5 3                | 1 6<br>1 58<br>2 50<br>3 43<br>4 36                        | 1 44<br>1 38<br>1 31<br>1 24<br>1 17                | 4 5<br>3 37<br>3 8<br>2 39<br>2 10                | 1 26<br>1 27<br>1 27<br>1 28<br>1 29                 | 5 51<br>5 44<br>5 37<br>5 30<br>5 23               | 2 37<br>2 35                                 | 11 11<br>11 9<br>11 6            | 1 30  | 12 43<br>12 42<br>12 40<br>12 39 | 2 39<br>2 39<br>2 40<br>2 40<br>2 40                 | 2 40<br>2 41<br>2 42<br>2 43<br>2 44                 | 0 48<br>0 48<br>0 48<br>0 48 | 19 41<br>19 41<br>19 42<br>19 42 | 1 35<br>1 35<br>1 35<br>1 35<br>1 35         | 14 31<br>14 31<br>14 32<br>14 32 | 16 31<br>16 31<br>16 31<br>16 31          | 9 11<br>9 11<br>9 12<br>9 12<br>9 12                 | 9 29<br>9 28<br>9 26<br>9 25<br>9 24             | 3 27<br>3 29<br>3 31<br>3 32<br>3 34              | 5 41<br>5 43<br>5 44<br>5 45<br>5 47          | 2 40<br>2 40<br>2 40<br>2 40<br>2 40                 |
| F 9<br>S 10<br>S 11                                |  | 14 27                                     | <ul><li>5 17</li><li>5 14</li><li>4 53</li></ul> | 5 30<br>6 25<br>7 20                                       | 1 9<br>1 0<br>0 51                                  | 1 42<br>1 13<br>0 44                              | 1 29<br>1 30<br>1 30                                 | 5 16<br>5 9<br>5 2                                 | 2 32   |                                  | 1 30  | 12 36                            | 2 40<br>2 40<br>2 40                                 | 2 45<br>2 46<br>2 47                                 | 0 48                         | 19 42<br>19 43<br>19 43          | 1 34<br>1 34<br>1 34                         |                                  | 16 31                                     | 9 12<br>9 12<br>9 12                                 | 9 23<br>9 22<br>9 21                             | 3 36<br>3 38<br>3 40                              | 5 48<br>5 49<br>5 51                          | 2 40<br>2 40<br>2 40                                 |
| M12<br>T 13<br>W14<br>T 15<br>F 16<br>S 17         | 8 20<br>8 42<br>9 4<br>9 25<br>9 47<br>10 8        | 2 37<br>2n11<br>6 54<br>11 10             | 0 44<br>0 s40                                    |  | 0 42<br>0 32<br>0 22<br>0 12<br>0 1<br>0n10         | 0 15<br>0n15<br>0 44<br>1 13<br>1 42<br>2 11      | 1 31<br>1 31<br>1 31<br>1 31<br>1 31<br>1 31         | 4 55<br>4 48<br>4 41<br>4 34<br>4 28<br>4 21       | 2 28<br>2 27<br>2 25<br>2 22<br>2 20<br>2 18 | 10 54<br>10 51<br>10 49          | 1 30<br>1 30<br>1 30<br>1 30<br>1 30<br>1 30  | 12 32<br>12 31<br>12 29          | 2 40<br>2 40<br>2 40<br>2 40<br>2 40<br>2 41         | 2 48<br>2 48<br>2 49<br>2 50<br>2 51<br>2 52         | 0 48<br>0 48<br>0 48<br>0 48 | 19 44<br>19 44<br>19 44<br>19 45 | 1 34<br>1 34<br>1 34<br>1 34<br>1 34         | 14 35<br>14 35<br>14 36<br>14 36 | 16 30<br>16 30<br>16 30<br>16 30          | 9 12<br>9 12<br>9 12<br>9 12<br>9 12<br>9 12         | 9 19<br>9 18<br>9 17<br>9 16<br>9 15<br>9 14     | 3 42<br>3 44<br>3 45<br>3 47<br>3 49<br>3 51      | 5 52<br>5 53<br>5 55<br>5 56<br>5 57<br>5 59  | 2 40<br>2 40<br>2 40<br>2 40<br>2 40<br>2 40<br>2 40 |
| S 18<br>M19<br>T 20<br>W21<br>T 22<br>F 23<br>S 24 | 11 32<br>11 52<br>12 13                            | 18 27<br>18 36<br>17 42<br>15 54<br>13 22 | 4 8<br>4 48<br>5 11<br>5 18<br>5 9               | 13 38<br>14 30<br>15 20<br>16 8<br>16 55<br>17 39<br>18 22 | 0 21<br>0 32<br>0 43<br>0 54<br>1 5<br>1 15<br>1 26 | 2 40<br>3 9<br>3 38<br>4 7<br>4 36<br>5 4<br>5 33 | 1 31<br>1 31<br>1 31<br>1 31<br>1 30<br>1 30<br>1 29 | 4 14<br>4 8<br>4 2<br>3 56<br>3 50<br>3 44<br>3 39 | 2 14<br>2 11<br>2 9<br>2 7                   | 10 35<br>10 33<br>10 30<br>10 28 | 1 30<br>1 30<br>1 30<br>1 30<br>1 30          | 12 23<br>12 21<br>12 20          | 2 41<br>2 41<br>2 41<br>2 41<br>2 41<br>2 41<br>2 41 | 2 53<br>2 53<br>2 54<br>2 55<br>2 56<br>2 56<br>2 57 | 0 48<br>0 48<br>0 48<br>0 48 | 19 46<br>19 46<br>19 47<br>19 47 | 1 34<br>1 34<br>1 34<br>1 34<br>1 34<br>1 34 | 14 38<br>14 38<br>14 39<br>14 39 | 16 29<br>16 29<br>16 29<br>16 29<br>16 29 | 9 12<br>9 12<br>9 11<br>9 11<br>9 11<br>9 11<br>9 11 | 9 12<br>9 11<br>9 10<br>9 9<br>9 8<br>9 7<br>9 5 | 3 53<br>3 55<br>3 57<br>3 58<br>4 0<br>4 2<br>4 4 | 6 0<br>6 2<br>6 3<br>6 4<br>6 6<br>6 7<br>6 8 | 2 39<br>2 39<br>2 39<br>2 39<br>2 39<br>2 39<br>2 39 |
| S 25<br>M26<br>T 27<br>W28<br>T 29<br>F 30         | 12 53<br>13 12<br>13 32<br>13 51<br>14 10<br>14n29 | 3 13<br>0s34<br>4 19<br>7 55              | 1 29<br>0 25                                     | 19 41<br>20 17<br>20 50                                    | 1 35<br>1 45<br>1 53<br>2 2<br>2 9<br>2n16          | 6 1<br>6 30<br>6 58<br>7 26<br>7 54<br>8n22       | 1 29<br>1 28<br>1 28<br>1 27<br>1 26<br>1 s25        | 3 34<br>3 28<br>3 24<br>3 19<br>3 15<br>3 s11      | 1 57<br>1 54<br>1 52<br>1 49                 |                                  | 1 30<br>1 30<br>1 30<br>1 30<br>1 30<br>1 n30 | 12 14<br>12 13<br>12 11          | 2 41<br>2 41<br>2 41<br>2 41<br>2 41<br>2 n41        | 2 58<br>2 58<br>2 59<br>3 0<br>3 0<br>3n 1           | 0 48<br>0 48<br>0 48<br>0 48 | 19 48<br>19 49                   | 1 34<br>1 34<br>1 34<br>1 34                 | 14 40<br>14 40                   | 16 28<br>16 28<br>16 27<br>16 27          | 9 11<br>9 12<br>9 12<br>9 13<br>9 13<br>9 s13        | 9 4<br>9 3<br>9 2<br>9 1<br>9 0<br>8 s 5 8       | 4 6<br>4 8<br>4 10<br>4 11<br>4 13<br>4s15        | 6 9<br>6 11<br>6 12<br>6 13<br>6 15<br>6n16   | 2 39<br>2 39<br>2 39<br>2 39<br>2 39<br>2 n39        |

 $\label{eq:Julian Day Number = 2531622.5, Delta T = 183.03 sec} \\ Ecliptic obliquity = 23°24'31, Nutation = 0°00'07, out-of-bounds declination in red Ayanamsha: Fagan/Bradley = 27°48'16, Lahiri = 26°55'16} \\$ 

MAY 2219 00:00 UT

| Day  | Sid.t    | 0                | D                 | ğ              | ·              | ď              | 4              | ħ              | )ب(            | ¥             | Р             | ₽.             | v              | Ç              | ķ             | Day  |
|------|----------|------------------|-------------------|----------------|----------------|----------------|----------------|----------------|----------------|---------------|---------------|----------------|----------------|----------------|---------------|------|
| S 1  | 14 32 50 | 9 <b>8</b> 58'06 | 13 <b>M</b> 9     | 29810          | 26 <b>Y</b> 17 | 11°R56         | 0°R10          | 9°R34          | 24°R12         | 6 <b>Ⅱ</b> 32 | 0°R57         | 23°R45         | 23 <b>♀</b> 4  | 7 <b>≙</b> 37  | 9 <b>Υ</b> 43 | S 1  |
| S 2  | 14 36 47 | 10°56'27         | 25°18             | 0 <b>П</b> 35  | 27°31          | 11 <b>≏</b> 41 | 0 <b>m</b> 2   | 9 <b>M</b> .30 | 24 Mp 11       | 6°34          | 0 <b>≙</b> 55 | 23 <u>₽</u> 43 | 23° 1          | 7°44           | 9°46          | S 2  |
| M 3  | 14 40 44 | 11°54'46         | 7 <b>.₹</b> 37    | 1°56           | 28°45          | 11°26          | 29 <b>£</b> 55 | 9°25           | 24° 9          | 6°36          | 0°54          | 23°41          | 22°57          | 7°51           | 9°49          | M 3  |
| T 4  | 14 44 40 | 12°53'04         | 20° 8             | 3°12           | 29°59          | 11°12          | 29°47          | 9°20           | 24° 8          | 6°38          | 0°53          | 23°38          | 22°54          | 7°57           | 9°52          | T 4  |
| W 5  | 14 48 37 | 13°51'20         | 2 <del>ට</del> 53 | 4°24           | 1813           | 10°59          | 29°40          | 9°16           | 24° 6          | 6°40          | 0°52          | 23°35          | 22°51          | 8° 4           | 9°55          | W 5  |
| T 6  | 14 52 33 | 14°49'34         | 15°51             | 5°30           | 2°26           | 10°47          | 29°33          | 9°11           | 24° 5          | 6°42          | 0°51          | 23°33          | 22°48          | 8°11           | 9°59          | T 6  |
| F 7  | 14 56 30 | 15°47'47         | 29° 6             | 6°33           | 3°40           | 10°36          | 29°26          | 9° 7           | 24° 4          | 6°45          | 0°50          | 23°31          | 22°45          | 8°17           | 10° 2         | F 7  |
| S 8  | 15 0 26  | 16°45'59         | 12 <b>≈</b> 38    | 7°30           | 4°54           | 10°25          | 29°19          | 9° 2           | 24° 2          | 6°47          | 0°49          | 23°D30         | 22°41          | 8°24           | 10° 5         | S 8  |
| S 9  | 15 4 23  | 17°44'09         | 26°28             | 8°23           | 6° 8           | 10°15          | 29°12          | 8°58           | 24° 1          | 6°49          | 0°48          | 23°30          | 22°38          | 8°31           | 10° 8         | S 9  |
| M10  | 15 8 19  | 18°42'18         | 10 <b>)</b> €36   | 9°10           | 7°22           | 10° 6          | 29° 5          | 8°53           | 24° 0          | 6°51          | 0°47          | 23°31          | 22°35          | 8°37           | 10°11         | M10  |
| T 11 | 15 12 16 | 19°40'25         | 25° 1             | 9°53           | 8°35           | 9°57           | 28°58          | 8°49           | 23°59          | 6°53          | 0°46          | 23°32          | 22°32          | 8°44           | 10°14         | T 11 |
| W12  | 15 16 13 | 20°38'31         | 9 <b>Ƴ</b> 40     | 10°30          | 9°49           | 9°49           | 28°51          | 8°45           | 23°58          | 6°55          | 0°45          | 23°34          | 22°29          | 8°50           | 10°17         | W12  |
| T 13 | 15 20 9  | 21°36'35         | 24°28             | 11° 3          | 11° 3          | 9°43           | 28°45          | 8°40           | 23°57          | 6°57          | 0°44          | 23°R34         | 22°26          | 8°57           | 10°19         | T 13 |
| F 14 | 15 24 6  | 22°34'38         | 9819              | 11°30          | 12°17          | 9°37           | 28°38          | 8°36           | 23°56          | 7° 0          | 0°43          | 23°33          | 22°22          | 9° 4           | 10°22         | F 14 |
| S 15 | 15 28 2  | 23°32'39         | 24° 5             | 11°52          | 13°31          | 9°31           | 28°32          | 8°31           | 23°55          | 7° 2          | 0°42          | 23°31          | 22°19          | 9°10           | 10°25         | S 15 |
| S 16 | 15 31 59 | 24°30'39         | 8 <b>Ⅱ</b> 40     | 12° 9          | 14°44          | 9°27           | 28°25          | 8°27           | 23°54          | 7° 4          | 0°41          | 23°28          | 22°16          | 9°17           | 10°28         | S 16 |
| M17  | 15 35 55 | 25°28'38         | 22°56             | 12°21          | 15°58          | 9°23           | 28°19          | 8°23           | 23°53          | 7° 6          | 0°41          | 23°23          | 22°13          | 9°24           | 10°31         | M17  |
| T 18 | 15 39 52 | 26°26'34         | 69549             | 12°28          | 17°12          | 9°21           | 28°13          | 8°19           | 23°52          | 7° 8          | 0°40          | 23°18          | 22°10          | 9°30           | 10°33         | T 18 |
| W19  | 15 43 48 | 27°24'29         | 20°17             | 12°R30         | 18°26          | 9°19           | 28° 7          | 8°15           | 23°52          | 7°11          | 0°39          | 23°13          | 22° 7          | 9°37           | 10°36         | W19  |
| T 20 | 15 47 45 | 28°22'23         | 3 <b>Ω</b> 19     | 12°27          | 19°39          | 9°17           | 28° 1          | 8°10           | 23°51          | 7°13          | 0°38          | 23°10          | 22° 3          | 9°44           | 10°39         | T 20 |
| F 21 | 15 51 42 | 29°20'14         | 15°58             | 12°19          | 20°53          | 9°D17          | 27°56          | 8° 6           | 23°50          | 7°15          | 0°38          | 23° 7          | 22° 0          | 9°50           | 10°41         | F 21 |
| S 22 | 15 55 38 | 0 <b>Ⅱ</b> 18'04 | 28°17             | 12° 7          | 22° 7          | 9°17           | 27°50          | 8° 2           | 23°50          | 7°17          | 0°37          | 23°D 6         | 21°57          | 9°57           | 10°44         | S 22 |
| S 23 | 15 59 35 | 1°15'52          | 10 <b>m</b> 20    | 11°51          | 23°21          | 9°18           | 27°45          | 7°58           | 23°49          | 7°20          | 0°37          | 23° 7          | 21°54          | 10° 4          | 10°47         | S 23 |
| M24  | 16 3 31  | 2°13'38          | 22°14             | 11°31          | 24°34          | 9°20           | 27°39          | 7°54           | 23°49          | 7°22          | 0°36          | 23° 8          | 21°51          | 10°10          | 10°49         | M24  |
| T 25 | 16 7 28  | 3°11'23          | 4 <b>♀</b> 2      | 11° 7          | 25°48          | 9°23           | 27°34          | 7°50           | 23°48          | 7°24          | 0°35          | 23° 9          | 21°47          | 10°17          | 10°52         | T 25 |
| W26  | 16 11 24 | 4° 9'06          | 15°50             | 10°41          | 27° 2          | 9°26           | 27°29          | 7°47           | 23°48          | 7°26          | 0°35          | 23°11          | 21°44          | 10°24          | 10°54         | W26  |
| T 27 | 16 15 21 | 5° 6'47          | 27°42             | 10°11          | 28°16          | 9°30           | 27°24          | 7°43           | 23°48          | 7°29          | 0°34          | 23°R11         | 21°41          | 10°30          | 10°57         | T 27 |
| F 28 | 16 19 17 | 6° 4'28          | 9 <b>M</b> 42     | 9°40           | 29°29          | 9°35           | 27°19          | 7°39           | 23°47          | 7°31          | 0°34          | 23° 9          | 21°38          | 10°37          | 10°59         | F 28 |
| S 29 | 16 23 14 | 7° 2'06          | 21°52             | 9° 7           | 0П43           | 9°41           | 27°15          | 7°35           | 23°47          | 7°33          | 0°33          | 23° 6          | 21°35          | 10°43          | 11° 1         | S 29 |
| S 30 | 16 27 11 | 7°59'44          | 4 <b>₹</b> 15     | 8°34           | 1°57           | 9°47           | 27°11          | 7°32           | 23°47          | 7°35          | 0°33          | 23° 1          | 21°32          | 10°50          | 11° 3         | S 30 |
| M31  | 16 31 7  | 8 <b>Ⅱ</b> 57'20 | 16 <b>₹</b> 51    | 8 <b>I</b> I 0 | 3耳10           | 9 <b>≏</b> 54  | 27 <b>♀</b> 6  | 7 <b>M</b> 28  | 23 <b>m</b> 47 | 7 <b>Ⅲ</b> 38 | ე <b>ჲ</b> 33 | 22 <b>≏</b> 54 | 21 <b>≏</b> 28 | 10 <b>≏</b> 57 | 11 <b>°</b> 6 | M31  |

| Day         | 0              | J                | )            | ζ              | 5            | ç              | )            | d            | 7            | 2            | 4    | ŧ      | ì            | )į           | γ(   | 4              |              | E     | 2              | រា          | Ω            | Ç            | Ł            | 5         |
|-------------|----------------|------------------|--------------|----------------|--------------|----------------|--------------|--------------|--------------|--------------|------|--------|--------------|--------------|------|----------------|--------------|-------|----------------|-------------|--------------|--------------|--------------|-----------|
|             | decl           | decl l           | lat          | decl           | lat          | decl           | lat          | decl         | lat          | decl         | lat  | decl   | lat          | decl         | lat  | decl           | lat          | decl  | lat            | decl        | decl         | decl         | decl         | lat       |
| S 1         | 14n47          | 14s 6            | 1n45         | 22n15          | 2n22         | 8n49           | 1 s24        | 3 s 7        | 1n44         | 10s 7        | 1n30 | 12s 7  | 2n41         | 3n 2         | 0n47 | 19n50          | 1 s34        | 14n41 | 16n26          | 9 s12       | 8 s 5 7      | 4s17         | 6n17         | 2n39      |
| S 2         | 15 5           | 16 23            | 2 46         | 22 38          | 2 27         | 9 17           | 1 23         | 3 3          | 1 41         | 10 4         | 1 29 | 12 6   | 2 41         | 3 2          | 0 47 | 19 50          | 1 34         | 14 41 | 16 26          | 9 12        | 8 56         | 4 19         | 6 18         | 2 39      |
| M 3         | 15 23          | 17 57            | 3 39         | 22 59          | 2 31         | 9 44           | 1 22         | 3 0          | 1 39         | 10 2         | 1 29 | 12 4   | 2 41         | 3 3          | 0 47 | 19 51          | 1 34         |       | 16 26          | 9 11        | 8 55         | 4 21         | 6 20         | 2 39      |
| T 4         | -              | 18 40            |              |                | 2 34         |                | 1 21         | 2 57         | 1 36         |              | 1 29 | 12 3   | 2 41         | 3 3          |      | 19 51          | 1 34         |       |                | 9 10        | 8 54         | 4 22         | 6 21         | 2 39      |
| W 5         |                | 18 28            |              | 23 33          | 2 37         |                | 1 20         | 2 55         | 1 33         | 9 57         |      | 12 1   | 2 41         | 3 4          | 0 47 | 19 51          | 1 34         |       | 16 25          | 9 9         | 8 52         | 4 24         | 6 22         | 2 39      |
| T 6         |                | 17 18            |              | 23 47          | 2 38         |                | 1 19         | 2 52         | 1 31         | 9 55         |      |        | 2 41         | 3 4          | 0 47 | 19 52          | 1 34         |       | 16 25          | 9 8         | 8 51         | 4 26         | 6 23         | 2 39      |
| F 7<br>S 8  |                | 15 11<br>12 13   | 5 14<br>4 58 | 23 58          |              | 11 30<br>11 56 | 1 18<br>1 16 | 2 50<br>2 48 | 1 28<br>1 26 | 9 52<br>9 50 |      |        | 2 41<br>2 41 | 3 5 3 5      |      |                |              |       | 16 25          | 9 7         | 8 50<br>8 49 | 4 28<br>4 30 | 6 25<br>6 26 | 2 39 2 39 |
|             |                |                  |              |                |              |                |              |              |              |              |      |        |              |              |      |                |              |       |                |             |              |              |              |           |
| S 9         | 17 6           | 8 31             | -            | 24 14          | 2 36         |                | 1 15         | 2 47         | 1 23         | 9 48         |      |        | 2 40         | 3 6          |      |                | 1 33         |       | 16 24          | 9 7         | 8 48         | 4 32         | 6 27         |           |
| M10<br>T 11 | 17 22<br>17 38 | 4 16<br>0n20     |              | 24 19<br>24 22 | 2 33 2 29    |                | 1 14<br>1 12 | 2 46<br>2 45 | 1 20<br>1 18 | 9 45<br>9 43 |      |        | 2 40<br>2 40 | 3 6 3 7      |      | 19 53<br>19 54 | 1 33<br>1 33 |       | 16 24<br>16 23 | 9 7<br>9 8  | 8 47<br>8 45 | 4 33<br>4 35 | 6 28<br>6 29 | 2 40 2 40 |
| W12         | 17 53          | 4 59             |              | 24 22          | 2 24         |                | 1 11         | 2 44         | 1 15         | 9 41         | 1 28 |        | 2 40         | 3 7          |      | 19 54          | 1 33         |       | 16 23          | 9 8         | 8 44         | 4 37         | 6 31         | 2 40      |
| T 13        | 18 9           | 9 24             |              | 24 21          | 2 18         |                | 1 9          | 2 44         | 1 13         | 9 38         |      |        | 2 40         | 3 7          |      | 19 54          | 1 33         |       | 16 22          | 9 8         | 8 43         | 4 39         | 6 32         | 2 40      |
| F 14        | 18 23          |                  |              | 24 18          | 2 11         |                | 1 8          | 2 44         |              |              |      |        | 2 40         | 3 8          |      | 19 55          | 1 33         |       | 16 22          | 9 8         | 8 42         | 4 41         | 6 33         |           |
| S 15        | 18 38          | 16 11            | 2 40         | 24 13          | 2 3          | 14 50          | 1 6          | 2 44         | 1 7          | 9 34         | 1 28 | 11 48  | 2 40         | 3 8          | 0 47 | 19 55          | 1 33         | 14 42 | 16 22          | 9 7         | 8 41         | 4 43         | 6 34         | 2 40      |
| S 16        | 18 52          | 18 3             | 3 42         | 24 6           | 1 54         | 15 13          | 1 4          | 2 45         | 1 5          | 9 32         | 1 28 | 11 47  | 2 40         | 3 8          | 0 47 | 19 56          | 1 33         | 14 42 | 16 21          | 9 6         | 8 40         | 4 44         | 6 35         | 2 40      |
| M17         | 19 6           | 18 44            | 4 30         | 23 57          | 1 43         | 15 36          | 1 2          | 2 46         | 1 2          | 9 30         | 1 27 | 11 45  | 2 40         | 3 9          | 0 47 | 19 56          | 1 33         | 14 42 | 16 21          | 9 4         | 8 38         | 4 46         | 6 36         | 2 40      |
| T 18        | 19 20          |                  |              | 23 47          | 1 32         |                | 1 1          | 2 47         | 1 0          | 9 28         | 1 27 |        | 2 40         | 3 9          | 0 47 | 19 56          | 1 33         |       | 16 21          | 9 2         | 8 37         | 4 48         | 6 37         | 2 40      |
| W19         |                |                  |              | 23 34          | 1 19         |                | 0 59         | 2 48         | 0 58         | 9 26         |      |        | 2 40         | 3 9          |      | 19 57          | 1 33         |       | 16 20          | 9 1         | 8 36         | 4 50         | 6 39         | 2 40      |
| T 20        |                |                  |              | 23 21          | 1 6          |                | 0 57         | 2 50         | 0 55         | 9 24         |      |        | 2 39         | 3 9          |      | 19 57          | 1 33         |       | 16 20          | 8 59        | 8 35         | 4 52         | 6 40         | 2 40      |
| F 21        |                | 11 27            | 4 48         |                | 0 51         |                | 0 55         | 2 52         | 0 53         | 9 22         |      |        | 2 39         | 3 10         |      |                | 1 33         |       | 16 19          | 8 58        | 8 34         | 4 54         | 6 41         | 2 40      |
| S 22        | 20 11          | 8 3              |              | 22 49          |              | 17 25          | 0 53         | 2 54         |              |              | 1 26 |        | 2 39         | 3 10         |      |                | 1 33         |       | 16 19          | 8 58        | 8 32         | 4 55         | 6 42         |           |
| S 23        | 20 23          | 4 24             |              | 22 31          | 0 20         |                | 0 51         | 2 57         | 0 48         | 9 19         |      |        | 2 39         | 3 10         |      |                | 1 33         |       | 16 19          | 8 58        | 8 31         | 4 57         | 6 43         |           |
| M24         | 20 35          | 0 37             |              | 22 12          | 0 4          |                | 0 49         | 3 0          | 0 46         | 9 17         | 1 26 |        | 2 39         | 3 10         | -    |                | 1 33         |       | 16 18          | 8 59        | 8 30         | 4 59         | 6 44         | - 1       |
| T 25<br>W26 | 20 46<br>20 57 | 3 s 1 0<br>6 5 0 |              | 21 52<br>21 31 | 0s13<br>0 31 |                | 0 47<br>0 45 | 3 3 3        | 0 43<br>0 41 | 9 16<br>9 14 |      |        | 2 39 2 39    | 3 10<br>3 10 |      | 19 59<br>19 59 | 1 33         | 14 41 | 16 18<br>16 17 | 8 59<br>9 0 | 8 29<br>8 28 | 5 1<br>5 3   | 6 45<br>6 46 | 2 40 2 40 |
| T 27        | 20 37          | 10 16            |              |                | 0 48         | -              | 0 43         | 3 10         | 0 41         | 9 14         |      |        | 2 39         | 3 10         |      |                |              |       | 16 17          | 9 0         | 8 26         | 5 4          | 6 47         | 2 40      |
|             |                |                  |              |                | 1 6          |                | 0 41         | 3 14         | 0 37         | 9 11         |      |        | 2 38         | 3 10         |      |                |              |       | 16 16          | 8 59        | 8 25         | 5 6          | 6 48         | 2 40      |
|             |                | 15 48            |              | 20 25          | 1 23         |                | 0 39         | 3 18         | 0 35         | 9 10         |      |        | 2 38         | 3 10         |      |                |              |       | 16 16          | 8 58        | 8 24         | 5 8          | 6 49         | 2 40      |
| S 30        | 21 37          | 17 38            | 3 24         | 20 3           | 1 40         | 19 56          | 0 36         | 3 22         | 0 32         | 9 8          | 1 25 | 11 31  | 2 38         | 3 10         | 0 46 | 20 1           | 1 33         | 14 40 | 16 16          | 8 56        | 8 23         | 5 10         | 6 50         | 2 40      |
| M31         | 21n46          | 18 s 3 7         | 4n 9         | 19n41          | 1 s57        | 20n12          | 0 s 3 4      | 3 s27        | 0n30         | 9s 7         | 1n24 | 11 s30 | 2n38         | 3n10         | 0n46 | 20n 1          | 1 s33        | 14n40 | 16n15          |             | 8 s22        | 5 s 1 2      | 6n51         | 2n40      |

Julian Day Number = 2531652.5, Delta T = 183.12 sec Ecliptic obliquity =  $23^{\circ}24'30$ , Nutation =  $0^{\circ}00'06$ , out-of-bounds declination in red Ayanamsha: Fagan/Bradley =  $27^{\circ}48'20$ , Lahiri =  $26^{\circ}55'20$ 

JUNE 2219 00:00 UT

| Day  | Sid.t    | 0               | D               | ğ              | φ             | ♂              | 4              | ħ              | )∤(            | 卉             | Р             | n              | v              | Ç              | , k            | Day  |
|------|----------|-----------------|-----------------|----------------|---------------|----------------|----------------|----------------|----------------|---------------|---------------|----------------|----------------|----------------|----------------|------|
| T 1  | 16 35 4  | 9∏54'55         | 29 <b>х</b> 42  | 7°R26          | 4 <b>Ⅱ</b> 24 | 10₽ 1          | 27°R 2         | 7°R25          | 23°D47         | 7 <b>Ⅱ</b> 40 | 0°R32         | 22°R46         | 21 <b>≙</b> 25 | 11 <b>♀</b> 3  | 11 <b>°</b> 8  | T 1  |
| W 2  | 16 39 0  | 10°52'29        | 12 <b>る</b> 46  | 6 <b>Ⅱ</b> 53  | 5°38          | 10° 9          | 26 <b>≏</b> 58 | 7 <b>M</b> ₊21 | 23 <b>m</b> 47 | 7°42          | 0 <b>ჲ</b> 32 | 22 <b>॒</b> 38 | 21°22          | 11°10          | 11°10          | W 2  |
| T 3  | 16 42 57 | 11°50'03        | 26° 3           | 6°21           | 6°52          | 10°18          | 26°55          | 7°18           | 23°47          | 7°44          | 0°32          | 22°30          | 21°19          | 11°17          | 11°12          | T 3  |
| F 4  | 16 46 53 | 12°47'35        | 9 <b>≈</b> 33   | 5°51           | 8° 5          | 10°28          | 26°51          | 7°15           | 23°47          | 7°47          | 0°31          | 22°24          | 21°16          | 11°23          | 11°14          | F 4  |
| S 5  | 16 50 50 | 13°45'06        | 23°14           | 5°24           | 9°19          | 10°38          | 26°48          | 7°11           | 23°47          | 7°49          | 0°31          | 22°20          | 21°13          | 11°30          | 11°16          | S 5  |
| S 6  | 16 54 46 | 14°42'36        | 7 <b>∺</b> 5    | 5° 0           | 10°33         | 10°48          | 26°44          | 7° 8           | 23°47          | 7°51          | 0°31          | 22°18          | 21° 9          | 11°37          | 11°18          | S 6  |
| M 7  | 16 58 43 | 15°40'06        | 21° 7           | 4°39           | 11°46         | 11° 0          | 26°41          | 7° 5           | 23°48          | 7°53          | 0°31          | 22°D18         | 21° 6          | 11°43          | 11°20          | M 7  |
| T 8  | 17 2 40  | 16°37'35        | 5 <b>Ƴ</b> 18   | 4°21           | 13° 0         | 11°12          | 26°38          | 7° 2           | 23°48          | 7°55          | 0°31          | 22°19          | 21° 3          | 11°50          | 11°22          | T 8  |
| W 9  | 17 6 36  | 17°35'03        | 19°37           | 4° 7           | 14°14         | 11°24          | 26°36          | 6°59           | 23°48          | 7°58          | 0°31          | 22°R20         | 21° 0          | 11°57          | 11°24          | W 9  |
| T 10 | 17 10 33 | 18°32'31        | 4 <b>8</b> 2    | 3°58           | 15°27         | 11°37          | 26°33          | 6°56           | 23°49          | 8° 0          | 0°31          | 22°19          | 20°57          | 12° 3          | 11°26          | T 10 |
| F 11 | 17 14 29 | 19°29'58        | 18°29           | 3°52           | 16°41         | 11°51          | 26°31          | 6°54           | 23°49          | 8° 2          | 0°D31         | 22°17          | 20°53          | 12°10          | 11°28          | F 11 |
| S 12 | 17 18 26 | 20°27'24        | 2 <b>Ⅱ</b> 53   | 3°D51          | 17°55         | 12° 5          | 26°28          | 6°51           | 23°50          | 8° 4          | 0°31          | 22°12          | 20°50          | 12°17          | 11°29          | S 12 |
| S 13 | 17 22 22 | 21°24'50        | 17° 9           | 3°55           | 19° 9         | 12°20          | 26°26          | 6°48           | 23°50          | 8° 7          | 0°31          | 22° 4          | 20°47          | 12°23          | 11°31          | S 13 |
| M14  | 17 26 19 | 22°22'15        | 19512           | 4° 3           | 20°22         | 12°35          | 26°24          | 6°46           | 23°51          | 8° 9          | 0°31          | 21°55          | 20°44          | 12°30          | 11°33          | M14  |
| T 15 | 17 30 15 | 23°19'39        | 14°56           | 4°15           | 21°36         | 12°51          | 26°23          | 6°43           | 23°52          | 8°11          | 0°31          | 21°45          | 20°41          | 12°36          | 11°34          | T 15 |
| W16  | 17 34 12 | 24°17'02        | 28°19           | 4°32           | 22°50         | 13° 7          | 26°21          | 6°41           | 23°53          | 8°13          | 0°31          | 21°36          | 20°38          | 12°43          | 11°36          | W16  |
| T 17 | 17 38 9  | 25°14'24        | 11 <b>\O</b> 20 | 4°53           | 24° 3         | 13°24          | 26°20          | 6°39           | 23°53          | 8°15          | 0°31          | 21°27          | 20°34          | 12°50          | 11°37          | T 17 |
| F 18 | 17 42 5  | 26°11'45        | 23°59           | 5°19           | 25°17         | 13°42          | 26°19          | 6°37           | 23°54          | 8°17          | 0°31          | 21°21          | 20°31          | 12°56          | 11°39          | F 18 |
| S 19 | 17 46 2  | 27° 9'06        | 6 <b>m</b> )18  | 5°50           | 26°31         | 13°59          | 26°18          | 6°35           | 23°55          | 8°20          | 0°32          | 21°16          | 20°28          | 13° 3          | 11°40          | S 19 |
| S 20 | 17 49 58 | 28° 6'25        | 18°22           | 6°24           | 27°45         | 14°18          | 26°17          | 6°33           | 23°56          | 8°22          | 0°32          | 21°14          | 20°25          | 13°10          | 11°42          | S 20 |
| M21  | 17 53 55 | 29° 3'43        | 0 <b>ჲ</b> 16   | 7° 3           | 28°58         | 14°37          | 26°16          | 6°31           | 23°57          | 8°24          | 0°32          | 21°D14         | 20°22          | 13°16          | 11°43          | M21  |
| T 22 | 17 57 51 | 09 1'01         | 12° 5           | 7°46           | 09୍ତ12        | 14°56          | 26°16          | 6°29           | 23°58          | 8°26          | 0°32          | 21°14          | 20°19          | 13°23          | 11°44          | T 22 |
| W23  | 18 1 48  | 0°58'18         | 23°54           | 8°33           | 1°26          | 15°16          | 26°16          | 6°27           | 23°59          | 8°28          | 0°33          | 21°R14         | 20°15          | 13°30          | 11°45          | W23  |
| T 24 | 18 5 44  | 1°55'34         | 5 <b>M</b> .49  | 9°24           | 2°39          | 15°36          | 26°D16         | 6°26           | 24° 0          | 8°30          | 0°33          | 21°13          | 20°12          | 13°36          | 11°47          | T 24 |
| F 25 | 18 941   | 2°52'49         | 17°54           | 10°19          | 3°53          | 15°56          | 26°16          | 6°24           | 24° 2          | 8°32          | 0°34          | 21°10          | 20° 9          | 13°43          | 11°48          | F 25 |
| S 26 | 18 13 38 | 3°50'04         | 0 <b>,</b> 713  | 11°18          | 5° 7          | 16°17          | 26°16          | 6°23           | 24° 3          | 8°34          | 0°34          | 21° 5          | 20° 6          | 13°50          | 11°49          | S 26 |
| S 27 | 18 17 34 | 4°47'18         | 12°48           | 12°21          | 6°21          | 16°39          | 26°17          | 6°21           | 24° 4          | 8°37          | 0°35          | 20°57          | 20° 3          | 13°56          | 11°50          | S 27 |
| M28  | 18 21 31 | 5°44'32         | 25°42           | 13°27          | 7°34          | 17° 1          | 26°17          | 6°20           | 24° 6          | 8°39          | 0°35          | 20°47          | 19°59          | 14° 3          | 11°51          | M28  |
| T 29 | 18 25 27 | 6°41'45         | 8 <b>云</b> 53   | 14°38          | 8°48          | 17°23          | 26°18          | 6°19           | 24° 7          | 8°41          | 0°36          | 20°35          | 19°56          | 14°10          | 11°52          | T 29 |
| W30  | 18 29 24 | <b>7</b> 938'58 | 22 <b>පි</b> 21 | 15 <b>Ⅱ</b> 52 | 1095 2        | 17 <b>≏</b> 46 | 26 <b>₽</b> 19 | 6 <b>M</b> .18 | 24M) 8         | 8 <b>Ⅱ</b> 43 | 0 <b>ჲ</b> 36 | 20 <b>≏</b> 24 | 19 <b>≏</b> 53 | 14 <b>≏</b> 16 | 11 <b>Y</b> 52 | W30  |

| Day          | 0              | J              |              | ζ              | 5           | ç              | )            | ď            | 7   | 2            | <b>+</b>     | ħ              | ì.        | );           | <del>j</del> ( | Ą     | Ţ            | Р     |       | រា           | Ω            | Ç            | ď           | ;            |
|--------------|----------------|----------------|--------------|----------------|-------------|----------------|--------------|--------------|---|--------------|--------------|----------------|-----------|--------------|----------------|-------|--------------|-------|-------|--------------|--------------|--------------|-------------|--------------|
|              | decl           | decl la        | at           | decl           | lat         | decl           | lat          | decl         | lat   | decl         | lat          | decl           | lat       | decl         | lat            | decl  | lat          | decl  | lat   | decl         | decl         | decl         | decl        | lat          |
| T 1          | 21n54          |                | -            | 19n20          |             | 20n28          | 0 s32        | 3 s32        | 0n28  | 9s 6         |              |                | 2n38      | 3n10         |                | 20n 2 |              |       |       | 8 s51        | 8 s 2 1      | 5 s 1 3      | 6n52        | 2n40         |
| W 2          | 22 3           |                |              | 18 59          | 2 29        |                | 0 30         | 3 37         | 0 26  | 9 4          | 1 24         |                | 2 37      | 3 10         |                |       |              |       |       | 8 48         | 8 19         | 5 15         | 6 52        | 2 40         |
| T 3          |                |                |              | 18 39          | 2 44        |                | 0 27         | 3 42         | 0 24  | 9 3          | 1 24         |                | 2 37      | 3 10         |                |       |              |       | -     | 8 45         | 8 18         | 5 17         | 6 53        | 2 41         |
| F 4          | 22 18<br>22 25 | -              | 4 54<br>4 24 | 18 21<br>18 3  | 2 57        | 21 13<br>21 27 | 0 25<br>0 23 | 3 48<br>3 54 | 0 22<br>0 20                                    | 9 2 9 1      | 1 24<br>1 23 | 11 26<br>11 25 | 2 37 2 37 | 3 10<br>3 10 |                |       | 1 33<br>1 33 |       | 16 13 | 8 43<br>8 41 | 8 17<br>8 16 | 5 19<br>5 21 | 6 54        | 2 41 2 41    |
|              |                |                |              |                |             |                |              | 3 34         |   | 9 1          |              | -              |           |              |                |       |              |       |       |              |              |              | 6 55        |              |
| S 6          | 22 32          |                |              | 17 48          |             | 21 40          | 0 21         | 4 0          | 0 18  | 9 0          | 1 23         |                | 2 37      | 3 10         |                |       |              |       |       | 8 40         | 8 15         | 5 22         | 6 56        | 2 41         |
| M 7          | 22 38          |                |              | -, -,          |             | 21 52          | 0 18         | 4 6          | 0 16  | 8 59         | 1 23         |                | 2 37      | 3 10         |                |       |              |       |       | 8 40         | 8 13         | 5 24         | 6 57        | 2 41         |
| T 8          | 22 44          | -              |              |                | 3 41        |                | 0 16         | 4 12         | 0 14  | 8 59         | 1 23         |                | 2 36      | 3 10         |                |       |              |       |       | 8 41         | 8 12         | 5 26         | 6 58        | 2 41         |
| W 9          | 22 50          |                |              | 17 11          | 3 49        |                | 0 14         | 4 19         | 0 12  | 8 58         | 1 22         |                | 2 36      |              |                | -     |              |       | -     | 8 41         | 8 11         | 5 28         | 6 58        | 2 41         |
| T 10<br>F 11 | 22 55<br>23 0  |                |              | 17 3<br>16 57  | 3 30<br>4 1 | 22 26<br>22 36 | 0 11 0 9     | 4 26<br>4 33 | 0 11<br>0 9                                     | 8 57<br>8 57 | 1 22<br>1 22 |                | 2 36 2 36 |              |                |       |              |       | -     | 8 41<br>8 40 | 8 10<br>8 9  | 5 30<br>5 31 | 6 59<br>7 0 | 2 41 2 41    |
| S 12         |                |                |              | 16 53          | 4 5         |                | 0 6          | 4 40         | 0 7   | 8 56         | 1 22         |                | 2 35      |              |                |       |              |       |       | 8 38         | 8 7          | 5 33         | 7 1         | 2 41         |
|              |                |                |              |                |             |                |              |              |   |              |              |                |           |              |                |       |              |       |       |              |              |              |             |              |
| S 13         | 23 8           |                | -            | 16 50          | 4 8         | -              | 0 4          | 4 47         | 0 5   | 8 55         | 1 21         |                | 2 35      |              |                |       |              |       |       | 8 35         | 8 6          | 5 35         | 7 1         | 2 41         |
| M14          | -              |                |              | 16 50          | 4 10        | _              | 0 2          | 4 55         | 0 4   | 8 55         | 1 21         | 11 19          | 2 35      | 3 8          |                |       | 1 33         |       |       | 8 32         | 8 5          | 5 37         | 7 2         | 2 41         |
| T 15<br>W16  | -              | -, -,          |              |                | 4 11        |                | 0n 1         | 5 2          | 0 2   | 8 55         | 1 21         | 11 18          | 2 35      | 3 8          |                |       | 1 33         |       |       | 8 28         | 8 4          | 5 39         | 7 3<br>7 3  | 2 41         |
| T 17         | 23 17<br>23 19 | 15 32<br>12 46 |              | 16 55<br>17 0  | 4 10        | 23 16<br>23 22 | 0 3 0 6      | 5 10<br>5 18 | 0 0<br>0s 2                                     | 8 54<br>8 54 | 1 20<br>1 20 | -              | 2 35 2 34 | 3 8 3 7      | 0 46<br>0 46   |       | 1 33         | -     |       | 8 24<br>8 21 | 8 3<br>8 2   | 5 40<br>5 42 | 7 4         | 2 41 2 41    |
| F 18         | 23 21          | -              |              | 17 7           | 4 6         |                | 0 8          | 5 27         | 0 3   | 8 54         | 1 20         |                | 2 34      | 3 7          |                |       |              |       |       | 8 19         | 8 0          | 5 44         | 7 5         | 2 41         |
| S 19         | 23 23          | -              |              | -, ,           |             |                | 0 10         | 5 35         | 0 5   | 8 54         | 1 20         |                | 2 34      | 3 6          |                |       |              |       |       | 8 17         | 7 59         | 5 46         | 7 5         | 2 42         |
|              |                |                |              |                |             |                |              |              |   |              |              |                |           |              |                |       |              |       |       |              |              |              | , -         |              |
| S 20<br>M21  | 23 24<br>23 24 | -              | -            | 17 26<br>17 38 |             | 23 36<br>23 39 | 0 13<br>0 15 | 5 44<br>5 52 | $\begin{array}{ccc} 0 & 6 \\ 0 & 8 \end{array}$ | 8 54<br>8 54 | 1 19         | 11 16<br>11 15 | 2 34 2 33 |              | -              |       |              |       |       | 8 16<br>8 16 | 7 58<br>7 57 | 5 47<br>5 49 | 7 6<br>7 7  | 2 42<br>2 42 |
| T 22         | 23 24          |                |              | 17 50          |             |                | 0 13         | 6 1          | 0 10  | 8 54         | -            | 11 15          | 2 33      |              |                |       |              |       |       | 8 16         | 7 56         | 5 51         | 7 7         | 2 42         |
| W23          | 23 24          |                | 0n14         |                | 3 41        | _              | 0 20         | 6 10         | 0 10  | 8 54         |              | 11 15          | 2 33      |              | -              |       |              |       |       | 8 16         | 7 54         | 5 53         | 7 8         | 2 42         |
| T 24         | 23 24          |                | -            | 18 19          | 3 33        |                | 0 22         | 6 19         | 0 13  | 8 54         | 1 18         |                | 2 33      | 3 4          | -              |       |              |       | -     | 8 16         | 7 53         | 5 55         | 7 8         | 2 42         |
| F 25         | -              |                |              |                |             | 23 45          | 0 24         | 6 29         | 0 14  | 8 55         | 1 18         |                | 2 32      | 3 4          | -              | 20 10 |              |       | 16 3  | 8 15         | 7 52         | 5 56         | 7 9         | 2 42         |
| S 26         | 23 21          |                |              | 18 52          |             | 23 45          | 0 27         | 6 38         | 0 15  | 8 55         |              | 11 14          | 2 32      | 3 3          |                | 20 10 |              |       |       | 8 13         | 7 51         | 5 58         | 7 9         | 2 42         |
| S 27         | 23 19          | 18 22          | 3 58         | 19 9           | 3 7         | 23 44          | 0 29         | 6 48         | 0 17  | 8 55         | 1 18         | 11 14          | 2 32      | 3 3          | 0 45           | 20 10 | 1 33         | 14 28 | 16 3  | 8 10         | 7 50         | 6 0          | 7 10        | 2 42         |
| M28          | 23 17          | 18 47          | 4 33         | 19 27          | 2 57        | 23 42          | 0 31         | 6 57         | 0 18  | 8 56         | 1 17         | 11 14          | 2 32      | 3 2          | 0 45           | 20 11 | 1 33         | 14 27 | 16 2  | 8 6          | 7 48         | 6 2          | 7 10        | 2 42         |
| T 29         | 23 14          | 18 12          | 4 55         | 19 45          | 2 47        | 23 40          | 0 33         | 7 7          | 0 20  | 8 57         | 1 17         | 11 13          | 2 31      | 3 1          | 0 45           | 20 11 | 1 33         | 14 27 | 16 2  | 8 2          | 7 47         | 6 3          | 7 10        | 2 42         |
| W30          | 23n11          | 16s36          | 5n 1         | 20n 4          | 2 s 3 7     | 23n37          | 0n35         | 7 s17        | 0 s21   | 8 s 5 7      | 1n17         | 11s13          | 2n31      | 3n 1         | 0n45           | 20n11 | 1 s33        | 14n26 | 16n 1 | 7 s57        | 7 s46        | 6s 5         | 7n11        | 2n42         |

Julian Day Number = 2531683.5, Delta T = 183.22 sec Ecliptic obliquity =  $23^{\circ}24'30$ , Nutation =  $0^{\circ}00'06$ , out-of-bounds declination in red Ayanamsha: Fagan/Bradley =  $27^{\circ}48'24$ , Lahiri =  $26^{\circ}55'24$ 

JULY 2219 00:00 UT

| Day  | Sid.t    | 0                | D              | ğ              | φ             | ð             | 4              | ħ              | )វូ(     | 并             | Р             | n              | Ω              | Ç              | Ŷ,             | Day  |
|------|----------|------------------|----------------|----------------|---------------|---------------|----------------|----------------|----------|---------------|---------------|----------------|----------------|----------------|----------------|------|
| T 1  | 18 33 20 | 8936'11          | 6≈ 2           | 17 <b>I</b> 9  | 119915        | 18 <b>♀</b> 9 | 26 <b>♀</b> 20 | 6°R17          | 24 Mp 10 | 8 <b>Ⅱ</b> 45 | 0 <b>ჲ</b> 37 | 20°R13         | 19 <b>≏</b> 50 | 14 <u>₽</u> 23 | 11 <b>Y</b> 53 | T 1  |
| F 2  | 18 37 17 | 9°33'23          | 19°55          | 18°30          | 12°29         | 18°32         | 26°22          | 6 <b>M</b> .16 | 24°12    | 8°47          | 0°38          | 20 <b>♀</b> 4  | 19°47          | 14°29          | 11°54          | F 2  |
| S 3  | 18 41 13 | 10°30'36         | 3 <b>)</b> 54  | 19°55          | 13°43         | 18°56         | 26°23          | 6°15           | 24°13    | 8°49          | 0°38          | 19°58          | 19°44          | 14°36          | 11°55          | S 3  |
| S 4  | 18 45 10 | 11°27'48         | 17°58          | 21°23          | 14°57         | 19°20         | 26°25          | 6°14           | 24°15    | 8°51          | 0°39          | 19°54          | 19°40          | 14°43          | 11°55          | S 4  |
| M 5  | 18 49 7  | 12°25'01         | 2 <b>Υ</b> 4   | 22°55          | 16°10         | 19°44         | 26°27          | 6°14           | 24°17    | 8°53          | 0°40          | 19°52          | 19°37          | 14°49          | 11°56          | M 5  |
| T 6  | 18 53 3  | 13°22'13         | 16°12          | 24°30          | 17°24         | 20° 9         | 26°29          | 6°13           | 24°18    | 8°54          | 0°40          | 19°52          | 19°34          | 14°56          | 11°56          | T 6  |
| W 7  | 18 57 0  | 14°19'26         | 0819           | 26° 9          | 18°38         | 20°34         | 26°31          | 6°13           | 24°20    | 8°56          | 0°41          | 19°52          | 19°31          | 15° 3          | 11°57          | W 7  |
| T 8  | 19 0 56  | 15°16'39         | 14°26          | 27°50          | 19°52         | 21° 0         | 26°34          | 6°13           | 24°22    | 8°58          | 0°42          | 19°51          | 19°28          | 15° 9          | 11°57          | T 8  |
| F 9  | 19 4 53  | 16°13'53         | 28°30          | 29°35          | 21° 5         | 21°25         | 26°36          | 6°13           | 24°24    | 9° 0          | 0°43          | 19°47          | 19°25          | 15°16          | 11°58          | F 9  |
| S 10 | 19 8 49  | 17°11'07         | 12 <b>Ⅲ</b> 29 | 19524          | 22°19         | 21°52         | 26°39          | 6°D12          | 24°26    | 9° 2          | 0°44          | 19°41          | 19°21          | 15°23          | 11°58          | S 10 |
| S 11 | 19 12 46 | 18° 8'21         | 26°21          | 3°15           | 23°33         | 22°18         | 26°42          | 6°12           | 24°28    | 9° 4          | 0°45          | 19°31          | 19°18          | 15°29          | 11°58          | S 11 |
| M12  | 19 16 42 | 19° 5'35         | 1099 1         | 5° 8           | 24°47         | 22°45         | 26°45          | 6°13           | 24°30    | 9° 6          | 0°46          | 19°20          | 19°15          | 15°36          | 11°59          | M12  |
| T 13 | 19 20 39 | 20° 2'49         | 23°27          | 7° 5           | 26° 1         | 23°12         | 26°48          | 6°13           | 24°32    | 9° 8          | 0°47          | 19°8           | 19°12          | 15°43          | 11°59          | T 13 |
| W14  | 19 24 36 | 21° 0'03         | $6\Omega$ 36   | 9° 4           | 27°14         | 23°39         | 26°52          | 6°13           | 24°34    | 9° 9          | 0°48          | 18°56          | 19° 9          | 15°49          | 11°59          | W14  |
| T 15 | 19 28 32 | 21°57'17         | 19°27          | 11° 5          | 28°28         | 24° 7         | 26°55          | 6°13           | 24°36    | 9°11          | 0°49          | 18°45          | 19° 5          | 15°56          | 11°59          | T 15 |
| F 16 | 19 32 29 | 22°54'32         | 1 <b>m</b> 59  | 13° 8          | 29°42         | 24°35         | 26°59          | 6°14           | 24°38    | 9°13          | 0°50          | 18°36          | 19° 2          | 16° 3          | 11°R59         | F 16 |
| S 17 | 19 36 25 | 23°51'46         | 14°15          | 15°13          | 0 <b>Ω</b> 56 | 25° 3         | 27° 3          | 6°15           | 24°41    | 9°15          | 0°51          | 18°29          | 18°59          | 16° 9          | 11°59          | S 17 |
| S 18 | 19 40 22 | 24°49'00         | 26°18          | 17°19          | 2°10          | 25°32         | 27° 7          | 6°15           | 24°43    | 9°16          | 0°52          | 18°26          | 18°56          | 16°16          | 11°59          | S 18 |
| M19  | 19 44 18 | 25°46'15         | 8 <b>≏</b> 11  | 19°26          | 3°23          | 26° 1         | 27°11          | 6°16           | 24°45    | 9°18          | 0°53          | 18°24          | 18°53          | 16°22          | 11°59          | M19  |
| T 20 | 19 48 15 | 26°43'29         | 19°59          | 21°34          | 4°37          | 26°30         | 27°16          | 6°17           | 24°48    | 9°20          | 0°54          | 18°24          | 18°50          | 16°29          | 11°58          | T 20 |
| W21  | 19 52 11 | 27°40'44         | 1 <b>M</b> .49 | 23°43          | 5°51          | 26°59         | 27°20          | 6°18           | 24°50    | 9°21          | 0°56          | 18°24          | 18°46          | 16°36          | 11°58          | W21  |
| T 22 | 19 56 8  | 28°37'58         | 13°44          | 25°52          | 7° 5          | 27°29         | 27°25          | 6°19           | 24°52    | 9°23          | 0°57          | 18°23          | 18°43          | 16°42          | 11°58          | T 22 |
| F 23 | 20 0 5   | 29°35'13         | 25°51          | 28° 0          | 8°19          | 27°59         | 27°30          | 6°20           | 24°55    | 9°24          | 0°58          | 18°21          | 18°40          | 16°49          | 11°58          | F 23 |
| S 24 | 20 4 1   | 0 <b>Ω</b> 32'28 | 8 <b>∡</b> 15  | 0 <b>N</b> 8   | 9°32          | 28°29         | 27°35          | 6°22           | 24°58    | 9°26          | 0°59          | 18°16          | 18°37          | 16°56          | 11°57          | S 24 |
| S 25 | 20 7 58  | 1°29'44          | 20°58          | 2°16           | 10°46         | 28°59         | 27°40          | 6°23           | 25° 0    | 9°28          | 1° 1          | 18° 9          | 18°34          | 17° 2          | 11°57          | S 25 |
| M26  | 20 11 54 | 2°26'59          | 4ろ 4           | 4°23           | 12° 0         | 29°30         | 27°45          | 6°24           | 25° 3    | 9°29          | 1° 2          | 17°59          | 18°31          | 17° 9          | 11°56          | M26  |
| T 27 | 20 15 51 | 3°24'15          | 17°32          | 6°29           | 13°14         | 0 <b>™</b> 1  | 27°51          | 6°26           | 25° 5    | 9°31          | 1° 4          | 17°48          | 18°27          | 17°16          | 11°56          | T 27 |
| W28  | 20 19 47 | 4°21'32          | 1≈20           | 8°33           | 14°28         | 0°32          | 27°56          | 6°28           | 25° 8    | 9°32          | 1° 5          | 17°37          | 18°24          | 17°22          | 11°55          | W28  |
| T 29 | 20 23 44 | 5°18'49          | 15°26          | 10°37          | 15°42         | 1° 4          | 28° 2          | 6°29           | 25°11    | 9°34          | 1° 6          | 17°27          | 18°21          | 17°29          | 11°54          | T 29 |
| F 30 | 20 27 40 | 6°16'07          | 29°43          | 12°39          | 16°55         | 1°35          | 28° 8          | 6°31           | 25°14    | 9°35          | 1° 8          | 17°18          | 18°18          | 17°36          | 11°54          | F 30 |
| S 31 | 20 31 37 | $7\Omega$ 13'25  | 14 <b>) </b> 7 | 14 <b>Ω</b> 40 | 18 <b>N</b> 9 | 2 <b>m</b> 7  | 28 <b>≏</b> 14 | 6 <b>M</b> .33 | 25 Mp 16 | 9 <b>Ⅱ</b> 36 | 1 <b>ჲ</b> 9  | 17 <b>≏</b> 12 | 18 <b>≏</b> 15 | 17 <b>≏</b> 42 | 11 <b>Y</b> 53 | S 31 |

| Day  | 0   | D  | ğ  | ς   | 2   | ♂  | 2  | +  | ħ  | l.   | );   | ł(   | 卉   | Р  | ß  | U  | Ç   | Š  |
|--|---|--|--|---|---|--|--|--|--|--|--|--|---|--|--|--|---|--|
|  | decl  | decl lat   | decl   | lat decl  | lat de  | el lat   | decl   | lat  | decl   | lat  | decl   | lat  | decl lat  | decl lat   | decl   | decl   | decl  | decl lat   |
| T 1<br>F 2<br>S 3                                  | 23n 8<br>23 4<br>23 0                                       | 10 40 4 2  | 0 20n22<br>2 20 41<br>8 20 59  | 2 s 2 6 2 3 n 3 3 2 9 2 2 2 2 3 2 4   | 0n38 7si<br>0 40 7 i<br>0 42 7 4  | 7 0 24   | 8 59   | 1 16   | 11 s13<br>11 13<br>11 13                           | 2n31<br>2 31<br>2 30   | 3n 0<br>2 59<br>2 59                                 | 0 45   | 20n12 1 s3:<br>20 12 1 3-<br>20 12 1 3-   | 14 25 16 0   | ,  | 7 s45<br>7 44<br>7 42                                | 6s 7<br>6 9<br>6 10                                   | 7n11 2n43<br>7 12 2 43<br>7 12 2 43  |
| S 4<br>M 5<br>T 6<br>W 7<br>T 8<br>F 9<br>S 10     | 22 55<br>22 50<br>22 44<br>22 38<br>22 32<br>22 25<br>22 18 | 2n15 1 3<br>6 40 0 1<br>10 43 0s5<br>14 8 2<br>16 43 3                 | 0 21 17<br>3 21 35<br>9 21 52<br>5 22 7<br>6 22 22<br>9 22 36<br>0 22 48 | 1 51 23 18<br>1 38 23 11<br>1 26 23 4<br>1 14 22 56<br>1 1 22 48<br>0 49 22 39<br>0 37 22 29              | 0 44 7 3<br>0 46 8<br>0 48 8<br>0 50 8 2<br>0 52 8 4<br>0 54 8 3                                  | 8 0 28<br>9 0 29<br>0 30<br>0 31                                   | 9 1<br>9 2<br>9 3<br>9 4<br>9 6              | 1 15<br>1 14                                 | 11 13  | 2 30<br>2 30<br>2 30<br>2 29<br>2 29<br>2 29<br>2 29<br>2 29 | 2 58<br>2 57<br>2 57<br>2 56<br>2 55<br>2 54<br>2 54 | 0 45<br>0 45<br>0 45<br>0 45<br>0 45         | 20 12 1 3 2 20 13 1 3 20 13 1 3 20 13 1 3 20 14 1 3 20 14 1 3 3 20 14 1 3 3 20 14 1 3 3 20 14 1 3 3 3 3 3 3 3 3 3 3 3 3 3 3 3 3 3 | 1 14 22 15 59<br>1 14 22 15 58<br>1 14 21 15 58<br>1 14 20 15 57                                 | 7 46<br>7 46<br>7 46<br>7 45<br>7 44                 | 7 41<br>7 40<br>7 39<br>7 38<br>7 36<br>7 35<br>7 34 | 6 12<br>6 14<br>6 16<br>6 17<br>6 19<br>6 21<br>6 23  | 7 12 2 43<br>7 13 2 43<br>7 13 2 43<br>7 13 2 43<br>7 13 2 43<br>7 14 2 43<br>7 14 2 43              |
| S 11<br>M12<br>T 13                                |   | 18 45 4 3<br>18 6 4 5<br>16 27 5<br>13 58 4 4<br>10 52 4 1<br>7 20 3 4 | 7 22 58  |   | 0 57 9<br>0 59 9 3<br>1 1 9 3<br>1 3 9 4  | 3 0 35<br>24 0 36<br>35 0 37<br>46 0 38<br>37 0 39<br>8 0 40       | 9 8<br>9 9<br>9 11<br>9 12<br>9 14<br>9 15   | 1 14<br>1 14<br>1 13<br>1 13<br>1 13<br>1 12 | 11 14<br>11 15<br>11 15<br>11 15<br>11 16          | 2 28<br>2 28<br>2 28<br>2 27<br>2 27<br>2 27<br>2 27         | 2 53<br>2 52<br>2 51<br>2 50<br>2 49<br>2 48<br>2 47 | 0 45<br>0 45<br>0 44<br>0 44<br>0 44         | 20 14 1 3-4<br>20 14 1 3-4<br>20 15 1 3-4<br>20 15 1 3-4<br>20 15 1 3-4<br>20 15 1 3-4  | 1 14 18 15 56<br>1 14 17 15 56<br>1 14 16 15 55<br>1 14 16 15 55<br>1 14 15 15 54                | 7 38<br>7 34<br>7 29<br>7 24<br>7 20<br>7 17         | 7 33<br>7 32<br>7 30<br>7 29<br>7 28<br>7 27<br>7 26 | 6 24<br>6 26<br>6 28<br>6 30<br>6 31<br>6 33<br>6 35  | 7 14 2 43<br>7 14 2 43<br>7 14 2 44<br>7 14 2 44<br>7 15 2 44<br>7 15 2 44<br>7 15 2 44              |
| S 18<br>M19<br>T 20<br>W21<br>T 22<br>F 23<br>S 24 | 21 8<br>20 58<br>20 47<br>20 36<br>20 24<br>20 13           | 0s17 1 5<br>4 4 0 5<br>7 40 0n<br>10 59 1 1<br>13 52 2 1<br>16 12 3    | 4 23 9<br>4 23 0<br>8 22 48<br>1 22 34<br>0 22 18<br>5 21 58<br>2 21 37  | 0 52 20 46<br>1 0 20 31<br>1 8 20 15<br>1 16 19 58<br>1 22 19 41<br>1 28 19 23<br>1 33 19 5               | 1 9 10 3<br>1 11 10 4<br>1 12 10 3  | 31 0 43<br>33 0 44<br>34 0 45<br>6 0 46<br>7 0 47<br>29 0 48       | 9 19<br>9 21<br>9 22<br>9 24<br>9 26<br>9 28 | 1 12<br>1 12<br>1 11<br>1 11<br>1 11         | 11 17<br>11 18<br>11 18<br>11 19<br>11 19<br>11 20 | 2 26<br>2 26<br>2 26<br>2 26<br>2 25<br>2 25<br>2 25<br>2 25 | 2 46<br>2 46<br>2 45<br>2 44<br>2 43<br>2 42<br>2 41 | 0 44<br>0 44<br>0 44<br>0 44<br>0 44         |   | 1 14 12 15 53<br>1 14 11 15 53<br>1 14 11 15 52<br>1 14 10 15 52<br>1 14 9 15 51<br>1 14 8 15 51 | 7 13<br>7 12<br>7 12<br>7 12<br>7 12<br>7 12<br>7 11 | 7 24<br>7 23<br>7 22<br>7 21<br>7 20<br>7 18<br>7 17 | 6 37<br>6 38<br>6 40<br>6 42<br>6 44<br>6 45<br>6 47  | 7 15 2 44<br>7 15 2 44              |
| S 25<br>M26<br>T 27<br>W28<br>T 29<br>F 30<br>S 31 | 19 48<br>19 35<br>19 22<br>19 9                             | 18 38 4 2<br>18 28 4 5<br>17 16 5<br>15 4 4 5<br>11 56 4 2<br>8 3 3 4  | 9 21 13<br>3 20 46<br>2 20 18<br>3 19 48                                 | 1 33 19 3<br>1 37 18 46<br>1 41 18 26<br>1 44 18 6<br>1 45 17 46<br>1 47 17 25<br>1 47 17 4<br>1n47 16n42 | 1 17 11 4<br>1 18 11 :<br>1 19 12<br>1 20 12<br>1 21 12 2<br>1 22 12 :<br>1 23 12 :<br>1 n24 13 s | 52  0 50<br>4  0 50<br>6  0 51<br>28  0 52<br>59  0 53<br>51  0 54 | 9 32<br>9 34<br>9 37<br>9 39<br>9 41<br>9 43 | 1 10<br>1 10<br>1 10<br>1 9<br>1 9<br>1 9    | 11 21<br>11 22<br>11 23<br>11 24<br>11 24          | 2 25<br>2 24<br>2 24<br>2 24<br>2 23<br>2 23<br>2n23         | 2 39<br>2 38<br>2 37<br>2 36<br>2 35<br>2 34<br>2n33 | 0 44<br>0 44<br>0 44<br>0 44<br>0 44<br>0 44 | 20 17 1 3-<br>20 17 1 3-<br>20 18 1 3-                                    | 1 14 6 15 50<br>1 14 5 15 50<br>1 14 5 15 50<br>1 14 4 15 49<br>1 14 3 15 49                     | 7 6<br>7 3<br>6 59<br>6 54<br>6 50<br>6 47           | 7 16<br>7 15<br>7 13<br>7 12<br>7 11<br>7 10<br>7s 9 | 6 49<br>6 50<br>6 52<br>6 54<br>6 56<br>6 57<br>6 859 | 7 14 2 44<br>7 14 2 45<br>7 14 2 45 |

Julian Day Number = 2531713.5, Delta T = 183.31 sec Ecliptic obliquity = 23°24′29, Nutation =  $0^\circ00'07$ , out-of-bounds declination in red Ayanamsha: Fagan/Bradley =  $27^\circ48'28$ , Lahiri =  $26^\circ55'29$ 

AUGUST 2219 00:00 UT

| Day  | Sid.t    | 0                  | D                    | ğ              | Q              | ♂              | 4              | ħ              | )∤(            | <del>¥</del>  | Р             | ß              | v              | Ç              | ę,             | Day  |
|------|----------|--------------------|----------------------|----------------|----------------|----------------|----------------|----------------|----------------|---------------|---------------|----------------|----------------|----------------|----------------|------|
| S 1  | 20 35 34 | 8 <b>Ω</b> 10'44   | 28 <b>)</b> (32      | 16 <b>Ω</b> 39 | 19 <b>Ω</b> 23 | 2M39           | 28 <b>£</b> 20 | 6M35           | 25 <b>m</b> 19 | 9Д38          | 1 <b>≏</b> 11 | 17°R 8         | 18 <b>≏</b> 11 | 17 <b>Ω</b> 49 | 11°R52         | S 1  |
| M 2  | 20 39 30 | 9° 8'04            | 12 <b>Y</b> 54       | 18°36          | 20°37          | 3°11           | 28°27          | 6°37           | 25°22          | 9°39          | 1°12          | 17°D 7         | 18° 8          | 17°55          | 11 <b>Y</b> 51 | M 2  |
| T 3  | 20 43 27 | 10° 5'26           | 27° 9                | 20°32          | 21°51          | 3°44           | 28°33          | 6°40           | 25°25          | 9°40          | 1°14          | 17 <b>♀</b> 7  | 18° 5          | 18° 2          | 11°50          | T 3  |
| W 4  | 20 47 23 | 11° 2'48           | 11817                | 22°27          | 23° 4          | 4°16           | 28°40          | 6°42           | 25°28          | 9°42          | 1°15          | 17°R 8         | 18° 2          | 18° 9          | 11°49          | W 4  |
| T 5  | 20 51 20 | 12° 0'12           | 25°15                | 24°19          | 24°18          | 4°49           | 28°47          | 6°44           | 25°31          | 9°43          | 1°17          | 17° 7          | 17°59          | 18°15          | 11°48          | T 5  |
| F 6  | 20 55 16 | 12°57'36           | 9Ⅱ 4                 | 26°11          | 25°32          | 5°22           | 28°54          | 6°47           | 25°34          | 9°44          | 1°19          | 17° 4          | 17°56          | 18°22          | 11°47          | F 6  |
| S 7  | 20 59 13 | 13°55'02           | 22°43                | 28° 0          | 26°46          | 5°56           | 29° 1          | 6°49           | 25°37          | 9°45          | 1°20          | 16°59          | 17°52          | 18°29          | 11°46          | S 7  |
| S 8  | 21 3 9   | 14°52'29           | 69311                | 29°48          | 28° 0          | 6°29           | 29° 8          | 6°52           | 25°40          | 9°47          | 1°22          | 16°52          | 17°49          | 18°35          | 11°45          | S 8  |
| M 9  | 21 7 6   | 15°49'57           | 19°27                | 1 <b>m</b> 34  | 29°14          | 7° 3           | 29°15          | 6°55           | 25°43          | 9°48          | 1°24          | 16°43          | 17°46          | 18°42          | 11°44          | M 9  |
| T 10 | 21 11 3  | 16°47'26           | 2 <b>Ω</b> 30        | 3°19           | 0 <b>m</b> 28  | 7°37           | 29°22          | 6°58           | 25°46          | 9°49          | 1°25          | 16°32          | 17°43          | 18°49          | 11°42          | T 10 |
| W11  | 21 14 59 | 17°44'57           | 15°20                | 5° 2           | 1°41           | 8°11           | 29°30          | 7° 1           | 25°49          | 9°50          | 1°27          | 16°22          | 17°40          | 18°55          | 11°41          | W11  |
| T 12 | 21 18 56 | 18°42'28           | 27°55                | 6°43           | 2°55           | 8°45           | 29°38          | 7° 4           | 25°52          | 9°51          | 1°29          | 16°13          | 17°36          | 19° 2          | 11°40          | T 12 |
| F 13 | 21 22 52 | 19°40'00           | 10 <b>M</b> 16       | 8°23           | 4° 9           | 9°20           | 29°45          | 7° 7           | 25°56          | 9°52          | 1°31          | 16° 5          | 17°33          | 19° 9          | 11°38          | F 13 |
| S 14 | 21 26 49 | 20°37'33           | 22°25                | 10° 1          | 5°23           | 9°55           | 29°53          | 7°10           | 25°59          | 9°53          | 1°32          | 16° 0          | 17°30          | 19°15          | 11°37          | S 14 |
| S 15 | 21 30 45 | 21°35'07           | 4 <u><b>Ω</b></u> 23 | 11°38          | 6°37           | 10°30          | OM 1           | 7°13           | 26° 2          | 9°54          | 1°34          | 15°58          | 17°27          | 19°22          | 11°35          | S 15 |
| M16  | 21 34 42 | 22°32'42           | 16°13                | 13°13          | 7°51           | 11° 5          | 0°10           | 7°17           | 26° 5          | 9°55          | 1°36          | 15°D57         | 17°24          | 19°28          | 11°34          | M16  |
| T 17 | 21 38 38 | 23°30'17           | 28° 0                | 14°47          | 9° 4           | 11°40          | 0°18           | 7°20           | 26° 9          | 9°56          | 1°38          | 15°57          | 17°21          | 19°35          | 11°32          | T 17 |
| W18  | 21 42 35 | 24°27'54           | 9 <b>M</b> .49       | 16°19          | 10°18          | 12°15          | 0°26           | 7°24           | 26°12          | 9°57          | 1°40          | 15°59          | 17°17          | 19°42          | 11°31          | W18  |
| T 19 | 21 46 32 | 25°25'32           | 21°44                | 17°49          | 11°32          | 12°51          | 0°35           | 7°27           | 26°15          | 9°58          | 1°42          | 15°R59         | 17°14          | 19°48          | 11°29          | T 19 |
| F 20 | 21 50 28 | 26°23'11           | 3 <b>∡</b> 750       | 19°18          | 12°46          | 13°27          | 0°43           | 7°31           | 26°19          | 9°58          | 1°44          | 15°59          | 17°11          | 19°55          | 11°27          | F 20 |
| S 21 | 21 54 25 | 27°20'51           | 16°14                | 20°45          | 14° 0          | 14° 3          | 0°52           | 7°35           | 26°22          | 9°59          | 1°46          | 15°57          | 17° 8          | 20° 2          | 11°25          | S 21 |
| S 22 | 21 58 21 | 28°18'32           | 28°58                | 22°11          | 15°14          | 14°39          | 1° 1           | 7°39           | 26°26          | 10° 0         | 1°47          | 15°53          | 17° 5          | 20° 8          | 11°24          | S 22 |
| M23  | 22 2 18  | 29°16'13           | 12 <b>る</b> 7        | 23°35          | 16°27          | 15°15          | 1°10           | 7°43           | 26°29          | 10° 1         | 1°49          | 15°48          | 17° 2          | 20°15          | 11°22          | M23  |
| T 24 | 22 6 14  | 0 <b>m</b> y 13'56 | 25°43                | 24°57          | 17°41          | 15°52          | 1°19           | 7°47           | 26°33          | 10° 1         | 1°51          | 15°41          | 16°58          | 20°22          | 11°20          | T 24 |
| W25  | 22 10 11 | 1°11'41            | 9≈43                 | 26°18          | 18°55          | 16°28          | 1°28           | 7°51           | 26°36          | 10° 2         | 1°53          | 15°34          | 16°55          | 20°28          | 11°18          | W25  |
| T 26 | 22 14 7  | 2° 9'26            | 24° 5                | 27°37          | 20° 9          | 17° 5          | 1°37           | 7°55           | 26°40          | 10° 3         | 1°55          | 15°27          | 16°52          | 20°35          | 11°16          | T 26 |
| F 27 | 22 18 4  | 3° 7'13            | 8 <b>) (</b> 43      | 28°54          | 21°22          | 17°42          | 1°47           | 7°59           | 26°43          | 10° 3         | 1°57          | 15°22          | 16°49          | 20°42          | 11°14          | F 27 |
| S 28 | 22 22 1  | 4° 5'01            | 23°31                | 0 <b>호</b> 9   | 22°36          | 18°19          | 1°56           | 8° 4           | 26°47          | 10° 4         | 1°59          | 15°18          | 16°46          | 20°48          | 11°12          | S 28 |
| S 29 | 22 25 57 | 5° 2'50            | 8 <b>Υ</b> 20        | 1°22           | 23°50          | 18°56          | 2° 6           | 8° 8           | 26°50          | 10° 4         | 2° 2          | 15°D17         | 16°42          | 20°55          | 11°10          | S 29 |
| M30  | 22 29 54 | 6° 0'42            | 23° 4                | 2°34           | 25° 4          | 19°34          | 2°15           | 8°13           | 26°54          | 10° 5         | 2° 4          | 15°17          | 16°39          | 21° 1          | 11° 8          | M30  |
| T 31 | 22 33 50 | 6 <b>M</b> 58'35   | 7 <b>8</b> 36        | 3 <b>≏</b> 43  | 26Mp 18        | 20 <b>M</b> 11 | 2 <b>M</b> 25  | 8 <b>M</b> .17 | 26 <b>m</b> 58 | 10 <b>I</b> 5 | 2 <b>₾</b> 6  | 15 <b>≏</b> 18 | 16 <b>≏</b> 36 | 21 <b>♀</b> 8  | 11 <b>°</b> 6  | T 31 |

| Day                  | 0                                     | D                                      | ğ                      | φ  | ď                                  | 4                                     | ħ                                      | )Å(                    | 卉                                      | В   | n                    | Ω   | 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           | 18n12<br>17 57                        | 5 26 0 22                              |                        | 5 15 57 1 25                                 | 13 s15 0 s56<br>13 27 0 57         | 9 51 1 8                              | 11 28 2 22                             | 2 31 0 44              | 20 19 1 34                             | 13 59 15 47                               | 6 43                 | 7 6 7   | -1       | 7n13 2n45<br>7 13 2 45              |
| T 3<br>W 4<br>T 5    |                                       | 9 37 0s53<br>13 13 2 5<br>16 0 3 9     | 15 35 1 4<br>14 55 1 3 | 10 15 10 1 26<br>17 14 46 1 27               | 14 2 0 59                          | 9 56 1 8<br>9 58 1 8                  | 11 30 2 22<br>11 31 2 22               | 2 28 0 44<br>2 27 0 44 | 20 19 1 35<br>20 19 1 35<br>20 19 1 35 | 13 57 15 47<br>13 56 15 46                | 6 43<br>6 43<br>6 43 | 7 5 7 7 7 7 7 7 3 7 7 3 7 7 3 7 7 3 7 7 3 7 7 7 3 7 | 8        | 7 12 2 45<br>7 12 2 45<br>7 12 2 45 |
| F 6<br>S 7           | 16 38                                 | 18 35 4 38                             | 14 14 1 3<br>13 33 1 2 | 13 57 1 27                                   | 14 14 1 0<br>14 26 1 1             | 10 4 1 7                              | 1 11 32 2 21<br>11 33 2 21             | 2 25 0 44              | 20 19 1 35<br>20 19 1 35               | 13 54 15 46                               | 6 40                 |   | 11       | 7 11 2 45<br>7 11 2 45              |
| S 8<br>M 9<br>T 10   | -                                     | 16 59 5 4                              | 12 8 1 1               |  | 14 38 1 1<br>14 50 1 2<br>15 1 1 3 | 10 9 1 7                              | 11 34 2 21<br>11 35 2 21<br>11 37 2 20 | 2 22 0 44              | 20 20 1 35<br>20 20 1 35<br>20 20 1 35 | 13 52 15 45                               | 6 34                 | 6 58  | 14       | 7 11 2 45<br>7 10 2 46<br>7 10 2 46 |
| W11<br>T 12<br>F 13  | 15 30<br>15 12<br>14 54               | 11 58 4 27<br>8 36 3 48<br>4 56 2 59   | 9 59 1                 | 8 12 14 1 28<br>2 11 47 1 28<br>5 11 21 1 28 | 15 25 1 4                          |                                       |  | 2 18 0 44              | 20 20 1 35<br>20 20 1 35<br>20 20 1 35 | 13 50 15 44                               | 6 22                 | 6 54  | 18 19 21 | 7 9 2 46<br>7 9 2 46<br>7 8 2 46    |
| S 14<br>S 15         | <ul><li>14 36</li><li>14 17</li></ul> | 1 7 2 3<br>2 s 4 1 1 2                 |                        |  |                                    | 10 24 1 6<br>10 27 1 5                |  |                        |  | 13 48 15 44<br>13 47 15 43                |                      |   | 23       | 7 8 2 46<br>7 7 2 46                |
| M16<br>T 17<br>W18   | 13 59<br>13 40<br>13 21               | 6 21 On 1<br>9 45 1 5<br>12 45 2 5     |                        | 6 9 30 1 27                                  | 16 23 1 8                          | 10 33 1 5                             | 11 45 2 19                             | 2 12 0 43              | 20 20 1 35<br>20 20 1 35<br>20 21 1 35 | 13 45 15 43                               | 6 16                 | 6 48  | 26 28 30 | 7 7 2 46<br>7 6 2 46<br>7 6 2 46    |
| T 19<br>F 20<br>S 21 | 13 2                                  | 15 15 3 1<br>17 8 3 50                 | 4 58 0 1<br>4 15 0     | 0 8 34 1 26<br>2 8 5 1 26                    | 16 46 1 9<br>16 58 1 10            | 10 39 1 5<br>10 42 1 4                |  | 2 9 0 43<br>2 8 0 43   | 20 21 1 35<br>20 21 1 35<br>20 21 1 35 | 13 43 15 42<br>13 42 15 42                | 6 17<br>6 17         | 6 46<br>6 44  | 31 33 35 | 7 5 2 46<br>7 4 2 46<br>7 4 2 46    |
| S 22<br>M23          | 12 3                                  | 18 29 4 56<br>17 44 5 8                | 2 52 0 1               | 6 7 7 1 24                                   | 17 20 1 11                         | 10 49 1 4                             | 11 51 2 18<br>11 52 2 17<br>11 54 2 17 | 2 5 0 43               | 20 21 1 35<br>20 21 1 35<br>20 21 1 35 | 13 40 15 41                               | 6 15                 |   | 36       | 7 3 2 46<br>7 2 2 46                |
| _                    | 11 23<br>11 2                         | 15 59 5 4<br>13 15 4 42                | 1 30 0 3<br>2 0 49 0 4 | 3 6 8 1 23<br>2 5 38 1 22                    | 17 43 1 12<br>17 54 1 13           | 10 55 1 4<br>10 59 1 3                | 11 55 2 17<br>11 57 2 17               | 2 2 0 43<br>2 1 0 43   | 20 21 1 35<br>20 21 1 36               | 13 38 15 41<br>13 37 15 41                | 6 10<br>6 7          | 6 40<br>6 38  | 40       | 7 2 2 46<br>7 1 2 46                |
| F 27<br>S 28         | 10 42<br>10 21<br>10 0                | 9 40 4 2<br>5 25 3 5<br>0 48 1 56      | 0 s30 1                | 52 5 9 1 21<br>1 4 39 1 20<br>0 4 8 1 19     |                                    | 11 5 1 3                              |  | 1 58 0 43              | 20 21 1 36<br>20 21 1 36<br>20 21 1 36 | 13 35 15 40                               | 6 3                  | 6 36  | -        | 7 0 2 46<br>6 59 2 46<br>6 59 2 46  |
| S 29<br>M30<br>T 31  | 9 39<br>9 18<br>8n56                  | 3n53 0 38<br>8 18 0 s42<br>12n 9 1 s59 | 2 23 1 2               | 9 3 8 1 17                                   | 18 48 1 15                         | 11 12 1 3<br>11 16 1 2<br>11 s19 1n 2 |  | 1 54 0 43              | 20 21 1 36                             | 13 33 15 40<br>13 32 15 40<br>13n31 15n40 | 6 1                  | 6 32  | -        | 6 58 2 46<br>6 57 2 46<br>6n56 2n46 |

Julian Day Number = 2531744.5, Delta T = 183.40 sec Ecliptic obliquity = 23°24'30, Nutation =  $0^{\circ}00'07$ , out-of-bounds declination in red Ayanamsha: Fagan/Bradley =  $27^{\circ}48'32$ , Lahiri =  $26^{\circ}55'33$ 

SEPTEMBER 2219 00:00 UT

| Day  | Sid.t    | 0                | D              | ğ             | φ              | ♂                | 4              | ħ             | )∤(            | 卉               | Р             | ₽.             | v              | Ç              | ę<br>k        | Day  |
|------|----------|------------------|----------------|---------------|----------------|------------------|----------------|---------------|----------------|-----------------|---------------|----------------|----------------|----------------|---------------|------|
| W 1  | 22 37 47 | 7 <b>m</b> 56'30 | 21854          | 4 <b>₽</b> 50 | 27 <b>m</b> 31 | 20 <b>11</b> .49 | 2 <b>M</b> 35  | 8 <b>M</b> 22 | 27 mg 1        | 10耳 6           | 2 <b>₾</b> 8  | 15 <b>≏</b> 19 | 16 <b>₽</b> 33 | 21 <b>≏</b> 15 | 11°R 4        | W 1  |
| T 2  | 22 41 43 | 8°54'26          | 5 <b>Ⅱ</b> 55  | 5°56          | 28°45          | 21°27            | 2°45           | 8°26          | 27° 5          | 10° 6           | 2°10          | 15°R20         | 16°30          | 21°21          | 11 <b>°</b> 1 | T 2  |
| F 3  | 22 45 40 | 9°52'25          | 19°40          | 6°58          | 29°59          | 22° 5            | 2°55           | 8°31          | 27° 8          | 10° 6           | 2°12          | 15°20          | 16°27          | 21°28          | 10°59         | F 3  |
| S 4  | 22 49 36 | 10°50'26         | 3 <b>9</b> 5 7 | 7°58          | 1 <b>≏</b> 13  | 22°43            | 3° 5           | 8°36          | 27°12          | 10° 7           | 2°14          | 15°18          | 16°23          | 21°35          | 10°57         | S 4  |
| S 5  | 22 53 33 | 11°48'28         | 16°18          | 8°56          | 2°26           | 23°21            | 3°15           | 8°41          | 27°16          | 10° 7           | 2°16          | 15°14          | 16°20          | 21°41          | 10°55         | S 5  |
| M 6  | 22 57 30 | 12°46'33         | 29°15          | 9°51          | 3°40           | 23°59            | 3°26           | 8°46          | 27°19          | 10° 7           | 2°18          | 15°10          | 16°17          | 21°48          | 10°52         | M 6  |
| T 7  | 23 1 26  | 13°44'39         | 11 <b>£</b> 58 | 10°43         | 4°54           | 24°38            | 3°36           | 8°51          | 27°23          | 10° 8           | 2°21          | 15° 5          | 16°14          | 21°55          | 10°50         | T 7  |
| W 8  | 23 5 23  | 14°42'47         | 24°28          | 11°32         | 6° 7           | 25°17            | 3°47           | 8°56          | 27°27          | 10° 8           | 2°23          | 14°59          | 16°11          | 22° 1          | 10°48         | W 8  |
| T 9  | 23 9 19  | 15°40'56         | 6 <b>M</b> )47 | 12°17         | 7°21           | 25°55            | 3°57           | 9° 1          | 27°31          | 10° 8           | 2°25          | 14°55          | 16° 8          | 22° 8          | 10°45         | T 9  |
| F 10 | 23 13 16 | 16°39'07         | 18°55          | 12°59         | 8°35           | 26°34            | 4° 8           | 9° 7          | 27°34          | 10° 8           | 2°27          | 14°51          | 16° 4          | 22°15          | 10°43         | F 10 |
| S 11 | 23 17 12 | 17°37'20         | 0 <b>≏</b> 55  | 13°37         | 9°49           | 27°13            | 4°18           | 9°12          | 27°38          | 10° 8           | 2°29          | 14°49          | 16° 1          | 22°21          | 10°40         | S 11 |
| S 12 | 23 21 9  | 18°35'35         | 12°47          | 14°11         | 11° 2          | 27°53            | 4°29           | 9°17          | 27°42          | 10° 8           | 2°31          | 14°D48         | 15°58          | 22°28          | 10°38         | S 12 |
| M13  | 23 25 5  | 19°33'52         | 24°35          | 14°41         | 12°16          | 28°32            | 4°40           | 9°23          | 27°46          | 10° 8           | 2°34          | 14°48          | 15°55          | 22°35          | 10°35         | M13  |
| T 14 | 23 29 2  | 20°32'10         | 6ML21          | 15° 6         | 13°30          | 29°12            | 4°51           | 9°28          | 27°49          | 10°R 8          | 2°36          | 14°50          | 15°52          | 22°41          | 10°33         | T 14 |
| W15  | 23 32 58 | 21°30'29         | 18° 9          | 15°26         | 14°43          | 29°51            | 5° 2           | 9°34          | 27°53          | 10° 8           | 2°38          | 14°51          | 15°48          | 22°48          | 10°30         | W15  |
| T 16 | 23 36 55 | 22°28'50         | 0 <b>才</b> 4   | 15°41         | 15°57          | 0 <b>∡</b> 31    | 5°13           | 9°39          | 27°57          | 10° 8           | 2°40          | 14°53          | 15°45          | 22°54          | 10°28         | T 16 |
| F 17 | 23 40 52 | 23°27'13         | 12°10          | 15°50         | 17°11          | 1°11             | 5°25           | 9°45          | 28° 1          | 10° 8           | 2°43          | 14°54          | 15°42          | 23° 1          | 10°25         | F 17 |
| S 18 | 23 44 48 | 24°25'38         | 24°31          | 15°R53        | 18°24          | 1°51             | 5°36           | 9°51          | 28° 4          | 10° 8           | 2°45          | 14°R55         | 15°39          | 23° 8          | 10°22         | S 18 |
| S 19 | 23 48 45 | 25°24'04         | 7 <b>云</b> 12  | 15°50         | 19°38          | 2°31             | 5°47           | 9°56          | 28° 8          | 10° 8           | 2°47          | 14°54          | 15°36          | 23°14          | 10°20         | S 19 |
| M20  | 23 52 41 | 26°22'31         | 20°17          | 15°41         | 20°51          | 3°11             | 5°59           | 10° 2         | 28°12          | 10° 8           | 2°49          | 14°53          | 15°33          | 23°21          | 10°17         | M20  |
| T 21 | 23 56 38 | 27°21'01         | 3 <b>≈</b> 49  | 15°24         | 22° 5          | 3°52             | 6°10           | 10° 8         | 28°16          | 10° 7           | 2°52          | 14°51          | 15°29          | 23°28          | 10°14         | T 21 |
| W22  | 0 0 34   | 28°19'31         | 17°48          | 15° 1         | 23°19          | 4°32             | 6°22           | 10°14         | 28°20          | 10° 7           | 2°54          | 14°49          | 15°26          | 23°34          | 10°12         | W22  |
| T 23 | 0 431    | 29°18'04         | 2 <b>)</b> 14  | 14°31         | 24°32          | 5°13             | 6°33           | 10°20         | 28°23          | 10° 7           | 2°56          | 14°47          | 15°23          | 23°41          | 10° 9         | T 23 |
| F 24 | 0 8 27   | 0 <b>ჲ</b> 16'38 | 17° 0          | 13°54         | 25°46          | 5°53             | 6°45           | 10°26         | 28°27          | 10° 7           | 2°58          | 14°45          | 15°20          | 23°48          | 10° 6         | F 24 |
| S 25 | 0 12 24  | 1°15'14          | 2 <b>Υ</b> 2   | 13°10         | 26°59          | 6°34             | 6°57           | 10°32         | 28°31          | 10° 6           | 3° 1          | 14°44          | 15°17          | 23°54          | 10° 4         | S 25 |
| S 26 | 0 16 21  | 2°13'52          | 17°10          | 12°20         | 28°13          | 7°15             | 7° 8           | 10°38         | 28°35          | 10° 6           | 3° 3          | 14°D44         | 15°13          | 24° 1          | 10° 1         | S 26 |
| M27  | 0 20 17  | 3°12'32          | 2814           | 11°25         | 29°26          | 7°56             | 7°20           | 10°44         | 28°38          | 10° 5           | 3° 5          | 14°44          | 15°10          | 24° 8          | 9°58          | M27  |
| T 28 | 0 24 14  | 4°11'14          | 1 <u>7</u> ° 7 | 10°24         | 0 <b>M</b> .40 | 8°37             | 7°32           | 10°51         | 28°42          | 10° 5           | 3° 7          | 14°45          | 15° 7          | 24°14          | 9°56          | T 28 |
| W29  | 0 28 10  | 5° 9'59          | 1 <b>Ⅱ</b> 43  | 9°21          | 1°53           | 9°19             | 7°44           | 10°57         | 28°46          | 10° 4           | 3°10          | 14°46          | 15° 4          | 24°21          | 9°53          | W29  |
| T 30 | 0 32 7   | 6 <b>♀</b> 8'45  | 15 <b>Ⅱ</b> 56 | 8 <b>≏</b> 15 | 3M 7           | 10 <b>×</b> 0    | 7 <b>M</b> .56 | 11 <b>M</b> 3 | 28 <b>m</b> 50 | 10 <b>I</b> I 4 | 3 <b>₾</b> 12 | 14 <b>≏</b> 47 | 15 <b>♀</b> 1  | 24 <b>Ω</b> 27 | 9 <b>Ƴ</b> 50 | T 30 |

| Day          | 0            | D                        | ğ                   | Q             | ♂ <sup>™</sup>           | 4          | ħ                            | )f(       | ¥                        | Р           | n            | Ω            | 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               |
| W 1          |              | 15n13 3s 6               |                     |               |                          | 11 s23 1n  |                              |           |                          | 13n30 15n40 | 6s 2         | 6s30         | 7 s53        | 6n55 2n46              |
| T 2          |              |                          | 4 9 1 58            |               |                          |            | 2 12 10 2 15                 |           | 20 21 1 36               |             | 6 2          | 6 29         | 7 55         | 6 55 2 46              |
| F 3          |              | 18 20 4 42               |                     | . 0           |                          |            | 2 12 12 2 15                 |           | 20 21 1 36               |             | 6 2          | 6 27         | 7 56         | 6 54 2 46              |
| S 4          | 7 30         | 18 17 5 5                | 5 15 2 16           | 0 35 1 10     | 19 41 1 18               | 11 34 1    | 2 12 13 2 15                 | 1 46 0 43 | 20 21 1 36               | 13 27 15 39 | 6 1          | 6 26         | 7 58         | 6 53 2 46              |
| S 5          | 7 7          | 17 15 5 12               | 5 46 2 26           | 0 4 1 8       | 19 51 1 18               | 11 37 1    | 1 12 15 2 14                 | 1 45 0 43 | 20 21 1 36               |             | 6 0          | 6 25         | 8 0          | 6 52 2 46              |
| M 6          | 6 45         | 15 20 5 3                | 6 16 2 35           | 0 s26 1 6     |                          | 11 41 1    | 1 12 17 2 14                 |           |                          |             | 5 58         | 6 24         | 8 1          | 6 51 2 46              |
| T 7          | 6 23         | 12 43 4 39               | 6 45 2 44           |               |                          | 11 45 1    | 1 12 19 2 14                 |           |                          |             | 5 56         | 6 23         | 8 3          | 6 50 2 46              |
| W 8          | 6 1          | 9 33 4 2                 | 7 12 2 53           |               |                          | 11 48 1    | 1 12 21 2 14                 |           |                          |             | 5 54         | 6 21         | 8 5          | 6 49 2 46              |
| T 9          | 5 38         | 6 0 3 14                 |                     | 1 59 1 1      |                          |            | 1 12 22 2 14                 |           | 20 21 1 36               |             | 5 52         | 6 20         | 8 6          | 6 48 2 46              |
| F 10<br>S 11 | 5 16<br>4 53 | 2 16 2 18<br>1 s 31 1 16 |                     |               |                          |            | 1 12 24 2 13<br>0 12 26 2 13 |           |                          |             | 5 51<br>5 50 | 6 19<br>6 18 | 8 8<br>8 10  | 6 47 2 46<br>6 46 2 46 |
|              | 4 33         | 1 s31 1 16               | 8 24 3 17           | 3 0 0 57      | 20 49 1 21               | 11 59 1    | 0 12 26 2 13                 | 1 30 0 43 | 20 21 1 36               | 13 21 13 38 | 3 30         | 0 18         | 8 10         | 6 46 2 46              |
| S 12         | 4 30         | 5 13 0 11                | 8 44 3 25           |               | 20 59 1 21               |            | 0 12 28 2 13                 |           | 20 21 1 36               |             | 5 50         | 6 16         | 8 11         | 6 45 2 46              |
| M13          | 4 8          | 8 41 0n54                | 9 2 3 32            |               | -                        |            | 0 12 30 2 13                 |           | 20 21 1 36               |             | 5 50         | 6 15         | 8 13         | 6 44 2 46              |
| T 14         | 3 45         | 11 47 1 56               | 9 18 3 39           |               |                          |            | 0 12 32 2 13                 |           | 20 21 1 37               |             | 5 50         | 6 14         | 8 15         | 6 43 2 46              |
| W15<br>T 16  | 3 22         | 14 26 2 54               | 9 32 3 45           |               |                          |            | 0 12 34 2 13                 |           | 20 21 1 37               |             | 5 51         | 6 13         | 8 16         | 6 42 2 46              |
| F 17         | 2 59<br>2 36 | 16 29 3 45<br>17 49 4 26 | 9 42 3 50 9 50 3 55 |               | 21 35 1 23<br>21 43 1 23 |            | 0 12 36 2 12<br>0 12 37 2 12 |           | 20 21 1 37<br>20 21 1 37 |             | 5 51<br>5 52 | 6 12<br>6 10 | 8 18<br>8 20 | 6 41 2 46<br>6 40 2 46 |
| S 18         |              | 18 21 4 57               | 9 55 3 59           |               |                          |            | 9 12 39 2 12                 |           |                          | 13 14 15 38 | 5 52         | 6 9          | 8 21         | 6 39 2 46              |
|              |              |                          |                     |               |                          |            |                              |           |                          |             |              |              |              |                        |
| S 19<br>M20  |              |                          |                     | ,             |                          |            |                              |           | 20 21 1 37               | 10 10 10 00 | 5 52         | 6 8          | 8 23         | 6 38 2 46              |
| T 21         | 1 26         | 16 41 5 15<br>14 25 4 59 | 9 54 4 3 9 48 4 4   |               | -                        |            |                              |           | 20 21 1 37<br>20 20 1 37 |             | 5 51<br>5 51 | 6 7<br>6 5   | 8 25<br>8 26 | 6 37 2 46<br>6 36 2 46 |
| W22          |              | -                        |                     |               | -                        |            |                              |           |                          |             | 5 50         | 6 4          | 8 28         | 6 35 2 46              |
| T 23         | 0 17         | 7 20 3 34                |                     |               |                          | 12 46 0 5  |                              |           |                          |             | 5 49         | 6 3          | 8 29         | 6 34 2 46              |
| F 24         | 0 s 7        | 2 51 2 28                | 9 6 3 56            |               | -                        |            |                              |           | 20 20 1 37               |             | 5 48         | 6 2          | 8 31         | 6 33 2 46              |
| S 25         | 0 30         | 1n53 1 10                |                     |               | 22 47 1 25               |            | -                            |           | 20 20 1 37               |             | 5 48         | 6 1          | 8 33         | 6 32 2 46              |
| S 26         | 0 53         | 6 31 0s13                | 8 17 3 43           | 10 28 0 23    | 22 54 1 26               | 12 58 0 5  | 8 12 55 2 11                 | 1 13 0 43 | 20 20 1 37               | 13 7 15 38  | 5 48         | 5 59         | 8 34         | 6 30 2 46              |
| M27          | 1 16         | 10 44 1 36               |                     |               | -                        |            |                              |           | 20 20 1 37               |             | 5 48         | 5 58         | 8 36         | 6 29 2 46              |
| T 28         | 1 40         | 14 12 2 50               |                     |               |                          |            |                              |           | 20 20 1 37               |             | 5 48         | 5 57         | 8 38         | 6 28 2 46              |
| W29          | 2 3          | 16 41 3 53               |                     |               | 23 14 1 26               |            |                              |           | 20 20 1 37               |             | 5 49         | 5 56         | 8 39         | 6 27 2 46              |
| T 30         | 2 s26        | 18n 3 4s39               | 5 s 5 5 2 s 5 3     | 3 12 s21 0n12 | 23 s21 1 s27             | 13 s13 0n5 | 8 13 s 4 2n10                | 1n 7 0n43 | 20n20 1s37               | 13n 4 15n38 | 5 s49        | 5 s 5 4      | 8 s41        | 6n26 2n46              |

Julian Day Number = 2531775.5, Delta T = 183.50 sec Ecliptic obliquity = 23°24'30, Nutation = 0°00'06, out-of-bounds declination in red Ayanamsha: Fagan/Bradley = 27°48'37, Lahiri = 26°55'37

OCTOBER 2219 00:00 UT

| 0010 | , D     | /                 |                 |                |                 |                 |                |                 |                |               |               |                |                |                | 00.0          | 0 0. |
|------|---------|-------------------|-----------------|----------------|-----------------|-----------------|----------------|-----------------|----------------|---------------|---------------|----------------|----------------|----------------|---------------|------|
| Day  | Sid.t   | 0                 | D               | ğ              | φ               | ð               | 4              | ħ               | )ұ(            | 卉             | Р             | S.             | Ω              | Ç              | ķ             | Day  |
| F 1  | 0 36 3  | 7 <b>♀</b> 7'34   | 29∏46           | 7°R 8          | 4M.20           | 10 <b>×</b> 741 | 8M 8           | 11 <b>M</b> _10 | 28 <b>m</b> 54 | 10°R 3        | 3 <b>₽</b> 14 | 14 <b>Ω</b> 47 | 14 <b>Ω</b> 58 | 24 <b>Ω</b> 34 | 9°R47         | F 1  |
| S 2  | 0 40 0  | 8° 6'26           | 139512          | 6 <b>₾</b> 3   | 5°34            | 11°23           | 8°20           | 11°16           | 28°57          | 10耳 3         | 3°16          | 14°R47         | 14°54          | 24°41          | 9 <b>Ƴ</b> 45 | S 2  |
| S 3  | 0 43 56 | 9° 5'19           | 26°17           | 5° 0           | 6°47            | 12° 5           | 8°32           | 11°22           | 29° 1          | 10° 2         | 3°19          | 14°47          | 14°51          | 24°47          | 9°42          | S 3  |
| M 4  | 0 47 53 | 10° 4'15          | 9Ω 2            | 4° 2           | 8° 0            | 12°47           | 8°45           | 11°29           | 29° 5          | 10° 2         | 3°21          | 14°46          | 14°48          | 24°54          | 9°39          | M 4  |
| T 5  | 0 51 50 | 11° 3'13          | 21°31           | 3°10           | 9°14            | 13°29           | 8°57           | 11°35           | 29° 9          | 10° 1         | 3°23          | 14°46          | 14°45          | 25° 1          | 9°36          | T 5  |
| W 6  | 0 55 46 | 12° 2'13          | 3 <b>m</b> ) 47 | 2°25           | 10°27           | 14°11           | 9° 9           | 11°42           | 29°12          | 10° 0         | 3°25          | 14°45          | 14°42          | 25° 7          | 9°34          | W 6  |
| T 7  | 0 59 43 | 13° 1'15          | 15°52           | 1°49           | 11°41           | 14°53           | 9°22           | 11°48           | 29°16          | 9°59          | 3°28          | 14°45          | 14°39          | 25°14          | 9°31          | T 7  |
| F 8  | 1 3 39  | 14° 0'20          | 27°49           | 1°22           | 12°54           | 15°35           | 9°34           | 11°55           | 29°20          | 9°59          | 3°30          | 14°45          | 14°35          | 25°21          | 9°28          | F 8  |
| S 9  | 1 7 36  | 14°59'27          | 9 <b>≏</b> 41   | 1° 6           | 14° 7           | 16°17           | 9°47           | 12° 2           | 29°23          | 9°58          | 3°32          | 14°45          | 14°32          | 25°27          | 9°25          | S 9  |
| S 10 | 1 11 32 | 15°58'35          | 21°29           | 1°D 0          | 15°21           | 17° 0           | 9°59           | 12° 8           | 29°27          | 9°57          | 3°34          | 14°45          | 14°29          | 25°34          | 9°23          | S 10 |
| M11  | 1 15 29 | 16°57'46          | 3 <b>M</b> .16  | 1° 5           | 16°34           | 17°42           | 10°12          | 12°15           | 29°31          | 9°56          | 3°37          | 14°45          | 14°26          | 25°41          | 9°20          | M11  |
| T 12 | 1 19 25 | 17°56'59          | 15° 4           | 1°20           | 17°47           | 18°25           | 10°24          | 12°22           | 29°34          | 9°55          | 3°39          | 14°45          | 14°23          | 25°47          | 9°17          | T 12 |
| W13  | 1 23 22 | 18°56'13          | 26°56           | 1°45           | 19° 1           | 19° 8           | 10°37          | 12°29           | 29°38          | 9°54          | 3°41          | 14°44          | 14°19          | 25°54          | 9°14          | W13  |
| T 14 | 1 27 18 | 19°55'30          | 8 <b>₹</b> 754  | 2°20           | 20°14           | 19°50           | 10°49          | 12°36           | 29°42          | 9°53          | 3°43          | 14°43          | 14°16          | 26° 1          | 9°12          | T 14 |
| F 15 | 1 31 15 | 20°54'48          | 21° 2           | 3° 4           | 21°27           | 20°33           | 11° 2          | 12°42           | 29°45          | 9°52          | 3°45          | 14°43          | 14°13          | 26° 7          | 9° 9          | F 15 |
| S 16 | 1 35 12 | 21°54'08          | 3 <b>る</b> 23   | 3°56           | 22°40           | 21°16           | 11°15          | 12°49           | 29°49          | 9°51          | 3°48          | 14°42          | 14°10          | 26°14          | 9° 6          | S 16 |
| S 17 | 1 39 8  | 22°53'30          | 16° 2           | 4°56           | 23°54           | 21°59           | 11°28          | 12°56           | 29°52          | 9°50          | 3°50          | 14°42          | 14° 7          | 26°20          | 9° 4          | S 17 |
| M18  | 1 43 5  | 23°52'54          | 29° 1           | 6° 2           | 25° 7           | 22°43           | 11°40          | 13° 3           | 29°56          | 9°49          | 3°52          | 14°D42         | 14° 4          | 26°27          | 9° 1          | M18  |
| T 19 | 1 47 1  | 24°52'19          | 12≈23           | 7°14           | 26°20           | 23°26           | 11°53          | 13°10           | 29°59          | 9°48          | 3°54          | 14°42          | 14° 0          | 26°34          | 8°58          | T 19 |
| W20  | 1 50 58 | 25°51'47          | 26°12           | 8°32           | 27°33           | 24° 9           | 12° 6          | 13°17           | 0 <b>ჲ</b> 3   | 9°47          | 3°56          | 14°43          | 13°57          | 26°40          | 8°56          | W20  |
| T 21 | 1 54 54 | 26°51'15          | 10 <b>∺</b> 27  | 9°54           | 28°46           | 24°53           | 12°19          | 13°24           | 0° 7           | 9°46          | 3°58          | 14°44          | 13°54          | 26°47          | 8°53          | T 21 |
| F 22 | 1 58 51 | 27°50'46          | 25° 6           | 11°19          | 29°59           | 25°36           | 12°32          | 13°31           | 0°10           | 9°45          | 4° 0          | 14°45          | 13°51          | 26°54          | 8°51          | F 22 |
| S 23 | 2 2 47  | 28°50'18          | 10 <b>Y</b> 5   | 12°48          | 1 <b>×</b> 13   | 26°20           | 12°45          | 13°38           | 0°13           | 9°44          | 4° 3          | 14°R45         | 13°48          | 27° 0          | 8°48          | S 23 |
| S 24 | 2 6 44  | 29°49'53          | 25°17           | 14°20          | 2°26            | 27° 3           | 12°58          | 13°45           | 0°17           | 9°43          | 4° 5          | 14°45          | 13°44          | 27° 7          | 8°46          | S 24 |
| M25  | 2 10 41 | 0 <b>M</b> .49'29 | 10831           | 15°54          | 3°39            | 27°47           | 13°11          | 13°52           | 0°20           | 9°41          | 4° 7          | 14°44          | 13°41          | 27°14          | 8°43          | M25  |
| T 26 | 2 14 37 | 1°49'08           | 25°39           | 17°30          | 4°52            | 28°31           | 13°24          | 13°59           | 0°24           | 9°40          | 4° 9          | 14°42          | 13°38          | 27°20          | 8°41          | T 26 |
| W27  | 2 18 34 | 2°48'48           | 10 <b>II</b> 30 | 19° 7          | 6° 5            | 29°15           | 13°37          | 14° 6           | 0°27           | 9°39          | 4°11          | 14°40          | 13°35          | 27°27          | 8°38          | W27  |
| T 28 | 2 22 30 | 3°48'31           | 24°59           | 20°45          | 7°18            | 29°59           | 13°50          | 14°13           | 0°30           | 9°38          | 4°13          | 14°38          | 13°32          | 27°34          | 8°36          | T 28 |
| F 29 | 2 26 27 | 4°48'16           | 995 0           | 22°24          | 8°31            | 0 <b>ප්</b> 43  | 14° 3          | 14°21           | 0°34           | 9°36          | 4°15          | 14°35          | 13°29          | 27°40          | 8°33          | F 29 |
| S 30 | 2 30 23 | 5°48'03           | 22°34           | 24° 3          | 9°44            | 1°27            | 14°16          | 14°28           | 0°37           | 9°35          | 4°17          | 14°34          | 13°25          | 27°47          | 8°31          | S 30 |
| S 31 | 2 34 20 | 6M47'53           | 5 <b>Ω</b> 40   | 25 <b>≙</b> 43 | 10 <b>∡</b> 757 | 2 <b>ਰ</b> 11   | 14 <b>M</b> 29 | 14 <b>M</b> .35 | 0 <b>ჲ</b> 40  | 9 <b>Ⅱ</b> 34 | 4 <b>₽</b> 19 | 14°D33         | 13 <b>≏</b> 22 | 27 <b>≙</b> 54 | 8 <b>Ƴ</b> 29 | S 31 |

| Day  | 0  | D  | ğ  | ·   | ď  | 4  | ħ  | )∤(  | ¥  | Р  | w u   | Ç  | , K  |
|--|--|--|--|---|--|--|--|--|--|--|---|--|--|
|  | decl   | decl lat   | decl lat   | decl lat  | decl lat   | decl lat   | decl lat   | decl lat   | decl lat   | decl lat   | decl de   | el decl  | decl lat   |
| F 1<br>S 2   | 2 s50<br>3 13  |  | 5 s 1 4 2 s 3 4 3 1 2 1 1  |   | 23 s27 1 s27<br>23 33 1 27   |  | 13 s 6 2n10<br>13 8 2 10   |  | 20n19 1 s37<br>20 19 1 37  | 13n 3 15n38<br>13 2 15 38  | 5 s 4 9 5 s 5 4 9 5 5 5   |  | 6n25 2n46<br>6 24 2 46   |
| S 3<br>M 4<br>T 5<br>W 6<br>T 7<br>F 8<br>S 9      | 3 36<br>3 59<br>4 22<br>4 45<br>5 8<br>5 31<br>5 54    | 13 18 4 50<br>10 17 4 15   | 3 49 1 5 3 7 1 3 2 28 1 1 1 5 1 0 5 5 1 1 9 0 3 0 5 0 0 1 0 2 6 0 0 0 0        | 9 14 9 0 1<br>9 14 35 0s 2<br>9 15 1 0 5<br>9 15 27 0 8   | 23 45 1 27<br>23 50 1 28<br>23 55 1 28<br>24 0 1 28<br>24 5 1 28                 | 13 30 0 57<br>13 34 0 57<br>13 38 0 57<br>13 42 0 57<br>13 46 0 57 | 13 10 2 10<br>13 12 2 10<br>13 14 2 10<br>13 16 2 9<br>13 18 2 9<br>13 20 2 9<br>13 23 2 9 | 1 1 0 43<br>1 0 0 43<br>0 58 0 43<br>0 57 0 43<br>0 55 0 43                | 20 19 1 37<br>20 19 1 37<br>20 19 1 38<br>20 19 1 38<br>20 19 1 38<br>20 19 1 38<br>20 18 1 38<br>20 18 1 38 | 13 0 15 38<br>13 0 15 39<br>12 59 15 39<br>12 58 15 39<br>12 57 15 39                  | 5 49 5 5 5 5 49 5 48 5 48 5 48 5 48 5 48  | 50 8 47<br>18 8 49<br>17 8 50<br>16 8 52<br>15 8 54          | 6 21 2 46<br>6 20 2 45<br>6 19 2 45<br>6 18 2 45<br>6 17 2 45              |
| S 10<br>M11<br>T 12<br>W13<br>T 14<br>F 15<br>S 16 | 7 47<br>8 9  | 7 47 0n37<br>11 0 1 41<br>13 46 2 41<br>15 59 3 34<br>17 30 4 18<br>18 16 4 51<br>18 10 5 12 | 0 8 0n1<br>0n 5 0 3<br>0 13 0 4<br>0 15 1 1<br>0 13 1 1<br>0 5 1 2<br>0s 7 1 3 | 4     17     5     0     20       9     17     28     0     23       2     17     52     0     26       4     18     14     0     29       5     18     37     0     32 | 24 18 1 28<br>24 22 1 28<br>24 26 1 29<br>24 30 1 29<br>24 33 1 29               | 14 2 0 56<br>14 6 0 56<br>14 10 0 56<br>14 14 0 56                 | 13 27 2 9<br>13 29 2 9<br>13 31 2 9<br>13 33 2 9   | 0 51 0 43<br>0 50 0 43<br>0 48 0 43<br>0 47 0 43<br>0 45 0 43              |  | 12 55 15 39<br>12 54 15 40<br>12 54 15 40<br>12 53 15 40<br>12 52 15 40                | 5 48 5 5<br>5 48 5 5<br>5 47 5 5  | 8 58<br>9 0<br>88 9 2  | 6 11 2 45<br>6 10 2 45<br>6 9 2 45   |
| S 17<br>M18<br>T 19<br>W20<br>T 21<br>F 22<br>S 23 | 8 53<br>9 15<br>9 37<br>9 59<br>10 20<br>10 42<br>11 3 | 15 18 5 8<br>12 33 4 41<br>9 2 3 58<br>4 52 2 59<br>0 18 1 47<br>4n23 0 26                   | 2 37 2<br>3 11 2   | 8 19 40 0 40<br>3 20 1 0 43<br>7 20 20 0 46<br>0 20 40 0 49<br>1 20 58 0 52<br>2 21 16 0 55   | 24 41 1 29<br>24 44 1 29<br>24 46 1 29<br>24 48 1 29<br>24 49 1 29<br>24 51 1 29 |  | 13 42 2 8<br>13 44 2 8<br>13 46 2 8<br>13 48 2 8<br>13 51 2 8<br>13 53 2 8                 | 0 41 0 43<br>0 40 0 43<br>0 38 0 43<br>0 37 0 43<br>0 36 0 43<br>0 34 0 43 | 20 16 1 38<br>20 16 1 38<br>20 16 1 38<br>20 16 1 38   | 12 50 15 41<br>12 50 15 41<br>12 49 15 41<br>12 48 15 41<br>12 48 15 42<br>12 47 15 42 |   | 30 9 13<br>29 9 14<br>27 9 16<br>26 9 18                     | 6 4 2 44<br>6 3 2 44<br>6 2 2 44<br>6 1 2 44<br>5 59 2 44                  |
|  | 13 6<br>13 26  | 15 47 3 28<br>17 40 4 22<br>18 21 4 58   | 4 24 2 5 2 1 5 5 41 1 5 6 21 1 5 7 1 1 4 4 7 41 1 4                            | 9 22 7 1 4<br>6 22 23 1 7<br>3 22 38 1 9  | 24 52  | 14 58 0 55<br>15 2 0 55<br>15 6 0 55<br>15 9 0 55<br>15 13 0 55    | 13 57 2 8<br>13 59 2 8<br>14 1 2 7<br>14 3 2 7<br>14 6 2 7                                 | 0 32 0 43<br>0 30 0 43<br>0 29 0 43<br>0 28 0 43<br>0 26 0 43<br>0 25 0 43 | 20 15 1 38<br>20 15 1 38<br>20 15 1 38<br>20 15 1 38<br>20 14 1 38<br>20 14 1 38                             | 12 46 15 42<br>12 45 15 43<br>12 45 15 43<br>12 44 15 43<br>12 44 15 43                | 5 48 5 2<br>5 48 5 2<br>5 47 5 2<br>5 46 5 2<br>5 45 5 2<br>5 44 5<br>5 844 5 8 | 24 9 21<br>22 9 22<br>21 9 24<br>20 9 25<br>9 9 27<br>8 9 29 | 5 57 2 43<br>5 56 2 43<br>5 55 2 43<br>5 54 2 43<br>5 53 2 43<br>5 52 2 43 |

Julian Day Number = 2531805.5, Delta T = 183.59 sec Ecliptic obliquity =  $23^{\circ}24'30$ , Nutation =  $0^{\circ}00'04$ , out-of-bounds declination in red Ayanamsha: Fagan/Bradley =  $27^{\circ}48'41$ , Lahiri =  $26^{\circ}55'41$ 

NOVEMBER 2219 00:00 UT

| Day  | Sid.t   | 0                  | D              | ğ              | φ              | ♂              | 4             | ħ             | )Å(           | 并             | Р             | ß              | Ω              | Ç              | ę,            | Day  |
|------|---------|--------------------|----------------|----------------|----------------|----------------|---------------|---------------|---------------|---------------|---------------|----------------|----------------|----------------|---------------|------|
| M 1  | 2 38 16 | 7 <b>11</b> L47'45 | 18 <b>Ω</b> 23 | 27 <b>≙</b> 23 | 12 <b>×</b> 10 | 2 <b>ප</b> 56  | 14ML42        | 14M42         | 0 <b>ჲ</b> 43 | 9°R32         | 4 <b>₽</b> 21 | 14 <b>Ω</b> 34 | 13 <b>₾</b> 19 | 28 <b>♀</b> 0  | 8°R26         | M 1  |
| T 2  | 2 42 13 | 8°47'38            | 0 <b>m</b> )47 | 29° 4          | 13°22          | 3°40           | 14°55         | 14°49         | 0°47          | 9 <b>Ⅲ</b> 31 | 4°23          | 14°35          | 13°16          | 28° 7          | 8 <b>Υ</b> 24 | T 2  |
| W 3  | 2 46 10 | 9°47'34            | 12°55          | 0 <b>M</b> .44 | 14°35          | 4°25           | 15° 9         | 14°56         | 0°50          | 9°29          | 4°25          | 14°37          | 13°13          | 28°13          | 8°22          | W 3  |
| T 4  | 2 50 6  | 10°47'33           | 24°52          | 2°24           | 15°48          | 5° 9           | 15°22         | 15° 4         | 0°53          | 9°28          | 4°27          | 14°38          | 13°10          | 28°20          | 8°19          | T 4  |
| F 5  | 2 54 3  | 11°47'33           | 6 <b>₽</b> 42  | 4° 4           | 17° 1          | 5°54           | 15°35         | 15°11         | 0°56          | 9°26          | 4°29          | 14°40          | 13° 6          | 28°27          | 8°17          | F 5  |
| S 6  | 2 57 59 | 12°47'35           | 18°29          | 5°44           | 18°14          | 6°38           | 15°48         | 15°18         | 0°59          | 9°25          | 4°30          | 14°R40         | 13° 3          | 28°33          | 8°15          | S 6  |
| S 7  | 3 1 56  | 13°47'39           | 0 <b>M</b> .16 | 7°24           | 19°26          | 7°23           | 16° 1         | 15°25         | 1° 2          | 9°24          | 4°32          | 14°39          | 13° 0          | 28°40          | 8°13          | S 7  |
| M 8  | 3 5 52  | 14°47'45           | 12° 5          | 9° 3           | 20°39          | 8° 8           | 16°14         | 15°32         | 1° 5          | 9°22          | 4°34          | 14°36          | 12°57          | 28°47          | 8°11          | M 8  |
| T 9  | 3 9 49  | 15°47'54           | 23°59          | 10°42          | 21°52          | 8°53           | 16°28         | 15°40         | 1°8           | 9°20          | 4°36          | 14°32          | 12°54          | 28°53          | 8° 9          | T 9  |
| W10  | 3 13 45 | 16°48'03           | 5 <b>₹</b> 59  | 12°21          | 23° 5          | 9°38           | 16°41         | 15°47         | 1°11          | 9°19          | 4°38          | 14°26          | 12°50          | 29° 0          | 8° 7          | W10  |
| T 11 | 3 17 42 | 17°48'15           | 18° 7          | 13°59          | 24°17          | 10°23          | 16°54         | 15°54         | 1°14          | 9°17          | 4°40          | 14°20          | 12°47          | 29° 7          | 8° 5          | T 11 |
| F 12 | 3 21 39 | 18°48'28           | 0 <b>궁</b> 24  | 15°37          | 25°30          | 11°8           | 17° 7         | 16° 1         | 1°17          | 9°16          | 4°41          | 14°14          | 12°44          | 29°13          | 8° 3          | F 12 |
| S 13 | 3 25 35 | 19°48'43           | 12°52          | 17°14          | 26°42          | 11°53          | 17°20         | 16° 8         | 1°20          | 9°14          | 4°43          | 14° 8          | 12°41          | 29°20          | 8° 1          | S 13 |
| S 14 | 3 29 32 | 20°49'00           | 25°34          | 18°51          | 27°55          | 12°39          | 17°33         | 16°16         | 1°22          | 9°13          | 4°45          | 14° 4          | 12°38          | 29°27          | 7°59          | S 14 |
| M15  | 3 33 28 | 21°49'17           | 8≈32           | 20°28          | 29° 8          | 13°24          | 17°47         | 16°23         | 1°25          | 9°11          | 4°46          | 14° 1          | 12°35          | 29°33          | 7°57          | M15  |
| T 16 | 3 37 25 | 22°49'37           | 21°49          | 22° 5          | 0 <b>궁</b> 20  | 14° 9          | 18° 0         | 16°30         | 1°28          | 9° 9          | 4°48          | 14°D 0         | 12°31          | 29°40          | 7°56          | T 16 |
| W17  | 3 41 21 | 23°49'57           | 5 <b>)</b> €26 | 23°41          | 1°32           | 14°55          | 18°13         | 16°37         | 1°31          | 9°8           | 4°50          | 14° 1          | 12°28          | 29°47          | 7°54          | W17  |
| T 18 | 3 45 18 | 24°50'19           | 19°25          | 25°17          | 2°45           | 15°40          | 18°26         | 16°44         | 1°33          | 9° 6          | 4°51          | 14° 2          | 12°25          | 29°53          | 7°52          | T 18 |
| F 19 | 3 49 14 | 25°50'42           | 3 <b>℃</b> 47  | 26°52          | 3°57           | 16°26          | 18°39         | 16°51         | 1°36          | 9° 5          | 4°53          | 14° 4          | 12°22          | 29°59          | 7°51          | F 19 |
| S 20 | 3 53 11 | 26°51'07           | 18°29          | 28°27          | 5° 9           | 17°11          | 18°52         | 16°59         | 1°38          | 9° 3          | 4°55          | 14°R 4         | 12°19          | 0 <b>™</b> 7   | 7°49          | S 20 |
| S 21 | 3 57 8  | 27°51'33           | 3 <b>8</b> 26  | 0 <b>∡</b> 2   | 6°22           | 17°57          | 19° 6         | 17° 6         | 1°41          | 9° 1          | 4°56          | 14° 2          | 12°16          | 0°13           | 7°47          | S 21 |
| M22  | 4 1 4   | 28°52'00           | 18°32          | 1°37           | 7°34           | 18°42          | 19°19         | 17°13         | 1°43          | 9° 0          | 4°58          | 13°59          | 12°12          | 0°20           | 7°46          | M22  |
| T 23 | 4 5 1   | 29°52'30           | 3 <b>Ⅱ</b> 38  | 3°11           | 8°46           | 19°28          | 19°32         | 17°20         | 1°46          | 8°58          | 4°59          | 13°53          | 12° 9          | 0°27           | 7°45          | T 23 |
| W24  | 4 8 57  | 0 <b>₮</b> 53'00   | 18°33          | 4°46           | 9°58           | 20°14          | 19°45         | 17°27         | 1°48          | 8°56          | 5° 1          | 13°46          | 12° 6          | 0°33           | 7°43          | W24  |
| T 25 | 4 12 54 | 1°53'33            | 3 <b>9</b> 9   | 6°20           | 11°10          | 21° 0          | 19°58         | 17°34         | 1°51          | 8°55          | 5° 2          | 13°38          | 12° 3          | 0°40           | 7°42          | T 25 |
| F 26 | 4 16 50 | 2°54'06            | 17°20          | 7°53           | 12°22          | 21°46          | 20°11         | 17°41         | 1°53          | 8°53          | 5° 4          | 13°31          | 12° 0          | 0°46           | 7°41          | F 26 |
| S 27 | 4 20 47 | 3°54'42            | 1 <b>Ω</b> 2   | 9°27           | 13°34          | 22°32          | 20°24         | 17°48         | 1°55          | 8°51          | 5° 5          | 13°24          | 11°56          | 0°53           | 7°39          | S 27 |
| S 28 | 4 24 43 | 4°55'19            | 14°15          | 11° 0          | 14°46          | 23°18          | 20°37         | 17°55         | 1°57          | 8°50          | 5° 6          | 13°20          | 11°53          | 1° 0           | 7°38          | S 28 |
| M29  | 4 28 40 | 5°55'58            | 27° 2          | 12°34          | 15°58          | 24° 4          | 20°50         | 18° 2         | 2° 0          | 8°48          | 5° 8          | 13°18          | 11°50          | 1° 6           | 7°37          | M29  |
| T 30 | 4 32 37 | 6 <b>х</b> 56'39   | 9 <b>₥</b> 27  | 14 <b>才</b> 7  | 17 <b>궁</b> 10 | 24 <b>궁</b> 50 | 21 <b>m</b> 3 | 18 <b>M</b> 9 | 2 <b>º</b> 2  | 8 <b>Ⅱ</b> 46 | 5 <b>₾</b> 9  | 13°D17         | 11 <b>≏</b> 47 | 1 <b>M</b> .13 | 7 <b>Y</b> 36 | T 30 |

| Day  | 0      | D         | ζ        | Į.      | φ            | ď        |       | 2      | ļ.   | ħ                | <u> </u> | )     | f(   | <del>,</del> | (     | Р     |       | n     | v       | Ç     | ď    | ;    |
|------|--------|-----------|----------|---------|--------------|----------|-------|--------|------|------------------|----------|-------|------|--------------|-------|-------|-------|-------|---------|-------|------|------|
|      | decl   | decl lat  | decl     | lat     | decl lat     | decl lat | t     | decl   | lat  | decl             | lat      | decl  | lat  | decl         | lat   | decl  | lat   | decl  | decl    | decl  | decl | lat  |
| M 1  | 14s 5  | 11n 8 4s2 | 3 9s 2   | 1n36 2  | 23 s33 1 s20 | 24 s51   | 1 s29 | 15 s21 | 0n55 | 14s12            | 2n 7     | 0n23  | 0n43 | 20n14        | 1 s38 | 12n42 | 15n44 | 5 s44 | 5 s 1 5 | 9s32  | 5n50 | 2n42 |
| T 2  | 14 25  | 7 46 3 3  | 9 9 43   | 1 31 2  | 23 45 1 23   | 24 50 1  | 1 29  | 15 25  | 0 55 | 14 14            | 2 7      | 0 21  | 0 43 | 20 13        | 1 39  | 12 42 | 15 45 | 5 44  | 5 14    | 9 33  | 5 49 | 2 42 |
| W 3  | 14 44  | 4 9 2 4   | 6 10 23  | 1 25 2  | 23 56 1 26   | 24 49 1  | 1 29  | 15 29  | 0 55 | 14 16            | 2 7      | 0 20  | 0 43 | 20 13        | 1 39  | 12 41 | 15 45 | 5 45  | 5 13    | 9 35  | 5 48 | 2 42 |
| T 4  | 15 3   | 0 24 1 4  | 7 11 3   | 1 20 2  | 24 7 1 28    | 24 47 1  | 1 29  | 15 33  | 0 55 | 14 18            | 2 7      | 0 19  | 0 43 | 20 13        | 1 39  | 12 41 | 15 45 | 5 46  | 5 11    | 9 36  | 5 47 | 2 42 |
| F 5  | 15 21  | 3 s20 0 4 | 4 11 42  | 1 14 2  | 24 17 1 31   | 24 45    | 1 28  | 15 37  | 0 55 | 14 20            | 2 7      | 0 18  | 0 43 | 20 13        | 1 39  | 12 41 | 15 46 | 5 46  | 5 10    | 9 38  | 5 46 | 2 42 |
| S 6  | 15 39  | 6 55 On2  | 1 12 21  | 1 8 2   | 24 26 1 33   | 24 43    | 1 28  | 15 41  | 0 55 | 14 23            | 2 7      | 0 16  | 0 43 | 20 13        | 1 39  | 12 40 | 15 46 | 5 46  | 5 9     | 9 40  | 5 45 | 2 42 |
| S 7  | 15 58  | 10 14 1 2 | 5 13 0   | 1 1 2   | 24 35 1 36   | 24 40 1  | 1 28  | 15 44  | 0 55 | 14 25            | 2 7      | 0 15  | 0 43 | 20 12        | 1 39  | 12 40 | 15 46 | 5 46  | 5 8     | 9 41  | 5 44 | 2 41 |
| M 8  | 16 15  | 13 9 2 2  | 5 13 38  | 0 55 2  | 24 42 1 38   | 24 37 1  | 1 28  | 15 48  | 0 54 | 14 27            | 2 7      | 0 14  | 0 44 | 20 12        | 1 39  | 12 39 | 15 47 | 5 45  | 5 6     | 9 43  | 5 43 | 2 41 |
| T 9  | 16 33  | 15 32 3 1 | 9 14 15  | 0 48 2  | 24 50 1 40   | 24 34 1  | 1 28  | 15 52  | 0 54 | 14 29            | 2 7      | 0 13  | 0 44 | 20 12        | 1 39  | 12 39 | 15 47 | 5 43  | 5 5     | 9 44  | 5 42 | 2 41 |
| W10  | 16 50  | 17 16 4   | 5 14 52  | 0 42 2  | 24 56 1 43   | 24 31 1  | 1 28  | 15 56  | 0 54 | 14 31            | 2 7      | 0 12  | 0 44 | 20 12        | 1 39  | 12 39 | 15 47 | 5 41  | 5 4     | 9 46  | 5 41 | 2 41 |
| T 11 | 17 7   | 18 14 4 4 | 0 15 27  | 0 35 2  | 25 2 1 45    | 24 28    | 1 28  | 16 0   | 0 54 | 14 33            | 2 7      | 0 11  | 0 44 | 20 11        | 1 39  | 12 38 | 15 48 | 5 39  | 5 3     | 9 47  | 5 40 | 2 41 |
| F 12 | 17 24  |           | 3 16 3   |         |              | 24 24 1  |       | 16 3   | 0 54 | 14 35            | 2 7      | 0 10  | 0 44 | 20 11        | 1 39  |       |       | 5 36  | 5 1     | 9 49  | 5 39 | 2 41 |
| S 13 | 17 40  | 17 37 5 1 | 1 16 37  | 0 22 2  | 25 11 1 49   | 24 20 1  | 1 27  | 16 7   | 0 54 | 14 37            | 2 7      | 0 8   | 0 44 | 20 11        | 1 39  | 12 38 | 15 49 | 5 34  | 5 0     | 9 50  | 5 38 | 2 40 |
| S 14 | 17 56  | 16 0 5    | 5 17 10  | 0 15 2  | 25 15 1 51   | 24 15 1  | 1 27  | 16 11  | 0 54 | 14 39            | 2 7      | 0 7   | 0 44 | 20 11        | 1 39  | 12 37 | 15 49 | 5 32  | 4 59    | 9 52  | 5 37 | 2 40 |
| M15  | 18 12  | 13 32 4 4 | 4 17 43  | 0 8 2   | 25 17 1 53   | 24 11 1  | 1 27  | 16 15  | 0 54 | 14 41            | 2 7      | 0 6   | 0 44 | 20 10        | 1 39  | 12 37 | 15 49 | 5 31  | 4 58    | 9 53  | 5 36 | 2 40 |
| T 16 | 18 27  | 10 20 4   | 6 18 15  | 0 1 2   | 25 20 1 55   | 24 6 1   | 1 27  | 16 18  | 0 54 | 14 43            | 2 7      | 0 5   | 0 44 | 20 10        | 1 39  | 12 37 | 15 50 | 5 31  | 4 57    | 9 55  | 5 35 | 2 40 |
| W17  | 18 42  | 6 29 3 1  | 5 18 46  | 0s 6 2  | 25 21 1 57   | 24 1 1   | 1 27  | 16 22  | 0 54 | 14 45            | 2 7      | 0 4   | 0 44 | 20 10        | 1 39  | 12 36 | 15 50 | 5 31  | 4 55    | 9 57  | 5 35 | 2 40 |
| T 18 | 18 57  |           | 0 19 15  |         |              |          | 1 26  | 16 26  | 0 54 | 14 47            | 2 7      | 0 3   | 0 44 | 20 10        | 1 39  | 12 36 | 15 51 | 5 32  | 4 54    | 9 58  | 5 34 | 2 40 |
| F 19 | 19 12  |           | 6 19 44  |         |              | 23 49 1  |       | 16 29  |      | 14 49            | 2 7      |       | -    |              | 1 39  |       |       | 5 32  |         | 10 0  | 5 33 | 2 39 |
| S 20 | 19 26  | 6 52 0s2  | 4 20 12  | 0 26 2  | 25 21 2 2    | 23 44 1  | 1 26  | 16 33  | 0 54 | 14 51            | 2 7      | 0 1   | 0 44 | 20 9         | 1 39  | 12 36 | 15 52 | 5 32  | 4 52    | 10 1  | 5 32 | 2 39 |
| S 21 | 19 39  | 11 2 1 4  | 3 20 39  | 0 32 2  | 25 19 2 4    | 23 37 1  | 1 26  | 16 36  | 0 54 | 14 53            | 2 7      | 0 0   | 0 44 | 20 9         | 1 39  | 12 36 | 15 52 | 5 32  | 4 50    | 10 3  | 5 31 | 2 39 |
| M22  | 19 53  | 14 30 2 5 | 6 21 5   | 0 39 2  | 25 17 2 5    | 23 31 1  | 1 25  | 16 40  | 0 54 | 14 55            | 2 7      | 0 s 1 | 0 44 | 20 9         | 1 39  | 12 35 | 15 52 | 5 30  | 4 49    | 10 4  | 5 31 | 2 39 |
| T 23 | 20 6   | 16 59 3 5 | 6 21 30  | 0 45 2  | 25 14 2 7    | 23 24 1  | 1 25  | 16 44  | 0 54 | 14 57            | 2 7      | 0 2   | 0 44 | 20 8         | 1 39  | 12 35 | 15 53 | 5 28  | 4 48    | 10 6  | 5 30 | 2 39 |
| W24  | 20 19  | 18 17 4 3 | 9 21 54  | 0 51 2  | 25 10 2 8    |          | 1 25  | 16 47  | 0 54 | 14 59            | 2 7      | 0 3   | 0 44 | 20 8         | 1 39  | 12 35 | 15 53 | 5 25  | 4 47    | 10 7  | 5 29 | 2 38 |
| T 25 | 20 31  | 18 19 5   | 3 22 17  | 0 57 2  | 25 5 2 9     | 23 10 1  | 1 25  | 16 51  | 0 54 | 15 1             | 2 7      | 0 4   | 0 44 | 20 8         | 1 39  | 12 35 | 15 54 | 5 22  | 4 45    | 10 9  | 5 28 | 2 38 |
|      | 20 43  | 17 12 5   | 7 22 38  |         | 25 0 2 11    |          | 1 24  | 16 54  | 0 54 | 15 3             | 2 7      | 0 4   | 0 44 | 20 7         | 1 39  |       |       | 5 19  | 4 44    | 10 10 | 5 28 | 2 38 |
| S 27 | 20 54  | 15 7 4 5  | 4 22 59  | 1 9 2   | 24 54 2 12   | 22 55 1  | 1 24  | 16 58  | 0 54 | 15 5             | 2 7      | 0 5   | 0 44 | 20 7         | 1 39  | 12 35 | 15 55 | 5 17  | 4 43    | 10 12 | 5 27 | 2 38 |
| S 28 | 21 5   | 12 18 4 2 | 5 23 18  | 1 15 2  | 24 47 2 13   | 22 47    | 1 24  | 17 1   | 0 54 | 15 7             | 2 7      | 0 6   | 0 44 | 20 7         | 1 39  | 12 35 | 15 55 | 5 15  | 4 42    | 10 13 | 5 26 | 2 38 |
| M29  | 21 16  | 8 59 3 4  | 3 23 36  | 1 20 2  | 24 40 2 14   | 22 38 1  | 1 24  | 17 5   | 0 54 | 15 9             | 2 7      | 0 7   | 0 44 | 20 7         | 1 39  | 12 35 | 15 56 | 5 14  | 4 40    | 10 15 | 5 26 | 2 37 |
| T 30 | 21 s26 | 5n22 2s5  | 2 23 s53 | 1 s26 2 | 24s32 2s14   | 22 s30   | 1 s23 | 17s 8  | 0n54 | $15\mathrm{s}11$ | 2n 7     | 0 s 8 | 0n44 | 20n 6        | 1 s39 | 12n34 | 15n56 | 5 s14 | 4 s39   | 10s16 | 5n25 | 2n37 |

Julian Day Number = 2531836.5, Delta T = 183.68 sec Ecliptic obliquity =  $23^{\circ}24'30$ , Nutation =  $0^{\circ}00'03$ , out-of-bounds declination in red Ayanamsha: Fagan/Bradley =  $27^{\circ}48'45$ , Lahiri =  $26^{\circ}55'45$ 

DECEMBER 2219 00:00 UT

| Day         | Sid.t              | 0                    | D                      | ğ               | ·              | ♂              | 4               | ħ               | )Å(           | 卉              | Р             | n              | v              | Ç             | , K           | Day          |
|-------------|--------------------|----------------------|------------------------|-----------------|----------------|----------------|-----------------|-----------------|---------------|----------------|---------------|----------------|----------------|---------------|---------------|--------------|
| W 1         | 4 36 33            | 7 <b>.</b> ₹57′21    | 21 <b>m</b> 34         | 15 <b>×7</b> 40 | 18 <b>ට</b> 21 | 25 <b>ප</b> 36 | 21 <b>M</b> .16 | 18 <b>M</b> .16 | 2 <b>♀</b> 4  | 8°R44          | 5 <b>≙</b> 10 | 13 <b>₾</b> 18 | 11 <b>≏</b> 44 | 1 <b>M</b> 20 | 7°R35         | W 1          |
| T 2         | 4 40 30            | 8°58'04              | 3 <b>≙</b> 29          | 17°13           | 19°33          | 26°22          | 21°29           | 18°23           | 2° 6          | 8 <b>Ⅱ</b> 43  | 5°11          | 13°19          | 11°41          | 1°26          | 7 <b>Ƴ</b> 34 | T 2          |
| F 3         | 4 44 26            | 9°58'49              | 15°17                  | 18°46           | 20°45          | 27° 8          | 21°42           | 18°30           | 2° 8          | 8°41           | 5°13          | 13°R19         | 11°37          | 1°33          | 7°33          | F 3          |
| S 4         | 4 48 23            | 10°59'36             | 27° 3                  | 20°18           | 21°56          | 27°54          | 21°55           | 18°37           | 2°10          | 8°39           | 5°14          | 13°18          | 11°34          | 1°40          | 7°32          | S 4          |
| S 5         | 4 52 19            | 12° 0'24             | 8 <b>M</b> .51         | 21°51           | 23° 8          | 28°41          | 22° 7           | 18°43           | 2°12          | 8°38           | 5°15          | 13°15          | 11°31          | 1°46          | 7°31          | S 5          |
| M 6         | 4 56 16            | 13° 1'14             | 20°45                  | 23°23           | 24°19          | 29°27          | 22°20           | 18°50           | 2°13          | 8°36           | 5°16          | 13° 9          | 11°28          | 1°53          | 7°30          | M 6          |
| T 7         | 5 0 12             | 14° 2'05             | 2 <b>√</b> 47          | 24°56           | 25°30          | 0≈13           | 22°33           | 18°57           | 2°15          | 8°34           | 5°17          | 13° 0          | 11°25          | 2° 0          | 7°30          | T 7          |
| W 8         | 5 4 9              | 15° 2'57             | 14°58                  | 26°28           | 26°42<br>27°53 | 1° 0           | 22°46           | 19° 4           | 2°17          | 8°33           | 5°18          | 12°49          | 11°22          | 2° 6          | 7°29          | W 8<br>T 9   |
| T 9<br>F 10 | 5 8 6<br>5 12 2    | 16° 3'50<br>17° 4'44 | 27°20<br>9 <b>る</b> 54 | 28° 0<br>29°32  | 27°53<br>29° 4 | 1°46<br>2°33   | 22°58<br>23°11  | 19°11<br>19°17  | 2°19<br>2°20  | 8°31<br>8°29   | 5°19<br>5°20  | 12°37<br>12°24 | 11°18<br>11°15 | 2°13<br>2°20  | 7°28<br>7°28  | F 10         |
| S 11        | 5 12 2 5 15 59     | 17° 444<br>18° 5'39  | 22°39                  | 1 <b>3</b> 4    | 29° 4<br>0≈15  | 3°19           | 23°24           | 19°17<br>19°24  | 2°22          | 8°28           | 5°21          | 12°24<br>12°13 | 11°13          | 2°26          | 7°27          | S 11         |
|             |                    |                      |                        | _               |                |                |                 |                 |               |                |               |                |                |               |               |              |
| S 12        | 5 19 55            | 19° 6'35             | 5 <b>≈</b> 35          | 2°35            | 1°26           | 4° 6           | 23°36           | 19°30           | 2°23          | 8°26           | 5°22          | 12° 4          | 11° 9          | 2°33          | 7°27          | S 12         |
| M13         | 5 23 52            | 20° 7'32             | 18°42<br>2 <b>₩</b> 3  | 4° 7            | 2°37           | 4°52           | 23°49           | 19°37           | 2°25          | 8°24           | 5°23          | 11°57          | 11° 6          | 2°40          | 7°26          | M13          |
| T 14<br>W15 | 5 27 48<br>5 31 45 | 21° 8'29<br>22° 9'27 | 2 <b>X</b> 3           | 5°38<br>7°8     | 3°48<br>4°58   | 5°39<br>6°26   | 24° 1<br>24°14  | 19°43<br>19°50  | 2°26<br>2°28  | 8°23<br>8°21   | 5°24<br>5°25  | 11°53<br>11°51 | 11° 2<br>10°59 | 2°46<br>2°53  | 7°26<br>7°26  | T 14<br>W15  |
| T 16        | 5 35 41            | 23°10'25             | 29°26                  | 8°38            | 6° 9           | 7°12           | 24°26           | 19°56           | 2°29          | 8°19           | 5°26          | 11°D51         | 10°56          | 3° 0          | 7°26          | T 16         |
| F 17        | 5 39 38            | 24°11'24             | 13 <b>Y</b> 31         | 10° 8           | 7°19           | 7°59           | 24°39           | 20° 3           | 2°30          | 8°18           | 5°27          | 11°R51         | 10°53          | 3° 6          | 7°25          | F 17         |
| S 18        | 5 43 35            | 25°12'24             | 27°52                  | 11°37           | 8°30           | 8°46           | 24°51           | 20° 9           | 2°31          | 8°16           | 5°27          | 11°51          | 10°50          | 3°13          | 7°25          | S 18         |
| S 19        | 5 47 31            | 26°13'24             | 12826                  | 13° 5           | 9°40           | 9°32           | 25° 3           | 20°15           | 2°32          | 8°14           | 5°28          | 11°48          | 10°47          | 3°20          | 7°25          | S 19         |
| M20         | 5 51 28            | 27°14'25             | 27° 9                  | 14°32           | 10°50          | 10°19          | 25°15           | 20°22           | 2°34          | 8°13           | 5°29          | 11°42          | 10°43          | 3°26          | 7°D25         | M20          |
| T 21        | 5 55 24            | 28°15'26             | 11 <b>Ⅱ</b> 54         | 15°59           | 12° 0          | 11° 6          | 25°27           | 20°28           | 2°35          | 8°11           | 5°29          | 11°33          | 10°40          | 3°33          | 7°25          | T 21         |
| W22         | 5 59 21            | 2 <u>9</u> °16'28    | 26°35                  | 17°23           | 13°10          | 11°53          | 25°39           | 20°34           | 2°36          | 8°10           | 5°30          | 11°22          | 10°37          | 3°39          | 7°25          | W22          |
| T 23        | 6 3 17             | 0 <b>궁</b> 17'30     | 1195 3                 | 18°47           | 14°19          | 12°40          | 25°51           | 20°40           | 2°36          | 8° 8           | 5°31          | 11°10          | 10°34          | 3°46          | 7°26          | T 23         |
| F 24        | 6 7 14             | 1°18'33              | 25°10                  | 20° 8           | 15°29          | 13°26          | 26° 3           | 20°46           | 2°37          | 8° 7           | 5°31          | 10°58          | 10°31          | 3°53          | 7°26          | F 24         |
| S 25        | 6 11 10            | 2°19'37              | 8 <b>Ω</b> 54          | 21°28           | 16°38          | 14°13          | 26°15           | 20°52           | 2°38          | 8° 5           | 5°32          | 10°47          | 10°28          | 3°59          | 7°26          | S 25         |
| S 26        | 6 15 7             | 3°20'41              | 22°10                  | 22°44           | 17°48          | 15° 0          | 26°27           | 20°58           | 2°39          | 8° 4           | 5°32          | 10°39          | 10°24          | 4° 6          | 7°26          | S 26         |
| M27         | 6 19 4             | 4°21'46              | 5 <b>m</b> y 1         | 23°58           | 18°57          | 15°47          | 26°39           | 21° 4           | 2°40          | 8° 2           | 5°32          | 10°33          | 10°21          | 4°13          | 7°27          | M27          |
| T 28        | 6 23 0             | 5°22'52              | 17°29                  | 25° 8           | 20° 6          | 16°34          | 26°51           | 21°10           | 2°40          | 8° 1           | 5°33          | 10°31          | 10°18          | 4°19          | 7°27          | T 28         |
| W29         | 6 26 57            | 6°23'59              | 29°39                  | 26°14           | 21°15          | 17°21          | 27° 2           | 21°16           | 2°41          | 7°59           | 5°33          | 10°30          | 10°15          | 4°26          | 7°28          | W29          |
| T 30        | 6 30 53            | 7°25′06<br>°₹26′12   | 11 <b>Ω</b> 36         | 27°16           | 22°24          | 18° 8          | 27°14           | 21°21           | 2°41          | 7°58           | 5°34          | 10°30          | 10°12          | 4°33          | 7°28          | T 30<br>F 31 |
| F 31        | 6 34 50            | 8 <b>ට</b> 26'13     | 23 <b>₾</b> 25         | 28 <b>궁</b> 12  | 23≈32          | 18 <b>≈</b> 55 | 27 <b>M</b> 25  | 21 <b>M</b> 27  | 2 <b>≏</b> 42 | 7 <b>I</b> I56 | 5 <b>≏</b> 34 | 10 <b>≏</b> 29 | 10☎ 8          | 4 <b>M</b> 39 | 7 <b>Ƴ</b> 29 | F 31         |

| Day               | 0                                | D                       | ğ                                  | ·   | ♂                      | 4                        | ħ                                    | )Å(  | ¥                       | Р                          | ß                       | ນ ţ  | ķ  |
|-------------------|----------------------------------|-------------------------|------------------------------------|---|------------------------|--------------------------|--------------------------------------|--|-------------------------|----------------------------|-------------------------|--|--|
|                   | decl                             | decl lat                | decl lat                           | decl lat de   | cl lat                 | decl lat                 | decl lat                             | decl lat   | decl lat                | decl lat                   | decl                    | decl decl  | decl lat   |
| W 1<br>T 2        | 21 s36<br>21 46                  | 2s11 0 53               | 24 23 1 3                          |   | 12 1 23                | 17 15 0 54               | 15 14 2 7                            | 0 9 0 44   |                         | 12 34 15 57                | 5 15                    | 4 s 38 10 s 18<br>4 37 10 19                         | 5n25 2n37<br>5 24 2 37                           |
| S 4               | 21 55<br>22 4                    | 9 16 1 13               |                                    | 45 23 53 2 17 21  | 53 1 22                | 17 21 0 54               | 15 16 2 7<br>15 18 2 7               | 0 10 0 44<br>0 11 0 44                           |                         | 12 34 15 58                | 5 15 4                  | 4 35 10 21<br>4 34 10 22                             | 5 23 2 37<br>5 23 2 36                           |
| S 5<br>M 6<br>T 7 | 22 20                            | 14 55 3 6               | 24 59 1 5<br>25 8 1 5<br>25 16 1 5 |   | 34 1 21                | 17 28 0 54               | 15 20 2 7<br>15 22 2 7<br>15 23 2 7  |  | 20 5 1 39               | 12 34 15 59                | 5 11 4                  | 4 33 10 24<br>4 32 10 25<br>4 30 10 27               | 5 22 2 36<br>5 22 2 36<br>5 21 2 36              |
| W 8<br>T 9        |                                  | 18 7 4 28<br>18 31 4 52 | 25 23 2<br>25 28 2                 | 1 23 3 2 18 21<br>4 22 48 2 18 21<br>7 22 34 2 18 20                  | 13 1 20 1<br>3 1 20    | 17 34 0 54<br>17 38 0 54 | 15 25 2 8                            | 0 14 0 44<br>0 14 0 45<br>0 15 0 45              | 20 4 1 39<br>20 4 1 39  | 12 35 16 0<br>12 35 16 1   | 5 3 4<br>4 59 4         | 4 29 10 28<br>4 28 10 30<br>4 27 10 31               | 5 21 2 36<br>5 21 2 36<br>5 20 2 35<br>5 20 2 35 |
| S 11              | 22 53                            | 16 37 4 58              | 25 34 2 1                          | 10 22 18 2 17 20  | 40 1 19                | 17 44 0 54               | 15 30 2 8                            | 0 15 0 45  | 20 4 1 39               | 12 35 16 2                 | 4 49 4                  | 4 26 10 33   | 5 20 2 35  |
| M13<br>T 14       | 22 58<br>23 2<br>23 7            | 11 20 4 3               |                                    | 12 22 2 2 17 20<br>14 21 46 2 16 20<br>16 21 29 2 16 20               | -                      | 17 50 0 54               | 15 34 2 8                            | 0 16 0 45<br>0 17 0 45<br>0 17 0 45              | 20 3 1 39               | 12 35 16 3                 | 4 43                    | 4 24 10 34<br>4 23 10 36<br>4 22 10 37               | 5 19 2 35<br>5 19 2 35<br>5 19 2 34              |
| T 16<br>F 17      | 23 11<br>23 14<br>23 17<br>23 19 | 0n47 1 6<br>5 12 0s 9   | 25 19 2 1                          |   | 42 1 17 1<br>29 1 17 1 | 17 59 0 54<br>18 2 0 54  | 15 39 2 8<br>15 40 2 8               | 0 18 0 45<br>0 18 0 45<br>0 18 0 45<br>0 19 0 45 | 20 2 1 39<br>20 2 1 39  | 12 36 16 5<br>12 36 16 5   | 4 41 4<br>4 41 4        | 4 21 10 39<br>4 19 10 40<br>4 18 10 42<br>4 17 10 43 | 5 18 2 34<br>5 18 2 34<br>5 18 2 34<br>5 18 2 34 |
| M20<br>T 21       | 23 24                            | 16 0 3 36<br>17 51 4 22 | 24 52 2 1<br>24 40 2 1             | 13 19 14 2 9 18   | 37 1 15                | 18 11 0 54<br>18 14 0 54 | 15 45 2 9<br>15 46 2 9               | 0 19 0 45<br>0 20 0 45<br>0 20 0 45              | 20 2 1 39<br>20 1 1 39  | 12 36 16 7<br>12 37 16 7   | 4 37 4<br>4 34 4        | 4 16 10 45<br>4 14 10 46<br>4 13 10 48               | 5 17 2 33<br>5 17 2 33<br>5 17 2 33              |
| T 23<br>F 24      | 23 24<br>23 24<br>23 24<br>23 23 | 17 57 5 1<br>16 17 4 52 | 23 56 2                            | 11 18 53 2 7 18<br>7 18 31 2 6 18<br>3 18 9 2 4 17<br>58 17 46 2 2 17 | 10 1 14 1<br>57 1 14 1 | 18 19 0 54<br>18 22 0 54 |                                      | 0 20 0 45<br>0 21 0 45<br>0 21 0 45<br>0 21 0 45 | 20 1 1 38<br>20 1 1 38  | 12 37 16 9<br>12 38 16 9   | 4 25 4<br>4 20 4        | 4 12 10 49<br>4 11 10 51<br>4 9 10 52<br>4 8 10 54   | 5 17 2 33<br>5 17 2 33<br>5 17 2 32<br>5 17 2 32 |
| S 26<br>M27       | 23 22<br>23 20                   | 10 32 3 46<br>6 55 2 56 | 23 21 1 5<br>23 2 1 4              | 53 17 23 2 0 17<br>46 16 59 1 58 17                                   | 28 1 13<br>14 1 12     | 18 28 0 54<br>18 30 0 54 | 15 54 2 9<br>15 55 2 9               | 0 22 0 45<br>0 22 0 45                           | 20 0 1 38<br>20 0 1 38  | 12 38 16 10<br>12 39 16 11 | 4 13 4<br>4 10 4        | 4 7 10 55<br>4 6 10 57                               | 5 16 2 32<br>5 16 2 32                           |
| W29<br>T 30       | -                                | 0s44 0 57<br>4 29 0n 6  |                                    | 30 16 11 1 53 16<br>21 15 47 1 51 16                                  | 30 1 11                | 18 36 0 54<br>18 38 0 54 | 15 57 2 9<br>15 58 2 9<br>15 59 2 10 |  | 20 0 1 38<br>19 59 1 38 | 12 39 16 12<br>12 40 16 12 | 4 9 4<br>4 9 4<br>4 9 4 | 4 3 10 59<br>4 2 11 1                                | 5 16 2 31<br>5 16 2 31<br>5 16 2 31              |
| F 31              | 23 s 8                           | 8 s 2 1 n 8             | 21 s38 1 s1                        | 10 15 s22 1 s48 16 s  | 15 1s10                | 18841 0n54               | 16s 1 2n10                           | 0 s23 0n45                                       | 19n59 1 s38             | 12n40 16n13                | 4s 9                    | 4s 1 11s 2   | 5n16 2n31  |

 $\label{eq:Julian Day Number = 2531866.5, Delta T = 183.77 sec} \\ Ecliptic obliquity = 23°24'29, Nutation = 0°00'03, out-of-bounds declination in red Ayanamsha: Fagan/Bradley = 27°48'49, Lahiri = 26°55'50} \\$