

# ባሕረ ሐሳብ



## ስመረ ወልደስላሴ ኪዳኑ

የኢትዮጵያ ኦርቶዶክስ ተውሃዶ ቤ/ክ በብቸኝነት ከምትታወቅባቸው አንዱ የራስዎ የሆነ የዘመን አቆጣጠር ወይም ባሕረ ሐሳብ መነርዋ ነው። ይኸውም ከዓለም የተለየች እንድትሆን አስችላታል። ይህም ባሕረ ሐሳብ ለ ዲመጥሮስ በገለፀለት መሰረት በየግዜው በተነሱ ኢትዮጵያውያን ሊቃውንት ከትውልድ ትውልድ ሲተላለፍ ቆይታዋል። በአሁኑ ወቅት ዘመኑ የመረጃ ዘመን በመሆኑና ሊቃውንቱ ሳይፈፉ ቴክኖሎጂውን በመጠቀም መስራት ከሚኖርብን አያሌ መንፈሳውያን ስራዎች ውስጥ ባሕረ ሐሳብ አንዱ ነው ። ምክንያቱም የአሁኑ ትውልድ በቀላሉ ሊረዳው ባለመቻሉ ማወቅና መረዳት እየፈለገ ከቁትሩ ስሌት ረቂቅነት አንፃር ብዙ ሲቸገር ይታያል።

የኢትዮጵያ ኦርቶዶክስ ተውሃዶ ቤ/ክ

አዲስ አበባ

+251 919012069

[Type the fax number]

20-Nov-14

<b>1)</b>	<b><u>How to use Bahre Hasab.....</u></b>	<b><u>2</u></b>
I.	<u>Starting Bahire Hasab.....</u>	<u>2</u>
II.	<u>Entering Input Information.....</u>	<u>3</u>
III.	<u>Selecting Output needed.....</u>	<u>4</u>
IV.	<u>Display Area.....</u>	<u>6</u>
V.	<u>Clearing input and output information.....</u>	<u>6</u>
VI.	<u>Print out .....</u>	<u>7</u>
VII.	<u>Save file.....</u>	<u>7</u>
VIII.	<u>Access file from disk.....</u>	<u>8</u>
IX.	<u>Exiting from the main and other forms.....</u>	<u>9</u>
	• <u>Canceling the application at main.....</u>	<u>9</u>
	• <u>Existing the whole application at main.....</u>	<u>9</u>
X.	<u>Help menu.....</u>	<u>9</u>
	➤ <u>To calculate something.....</u>	<u>9</u>
	➤ <u>To find out Calendar for Ethiopian.....</u>	<u>10</u>
	➤ <u>To know history of Bahre Hasab.....</u>	<u>11</u>
	➤ <u>To read the PDF about Bahrehasab in Amharic.....</u>	<u>11</u>
<b>2)</b>	<b><u>General Information about Ethiopian Orthodox tewahido church.....</u></b>	<b><u>13</u></b>
a.	<u>Finding AmeteAlem(year of creation) and Wengelawi.....</u>	<u>13</u>
b.	<u>Finding New year (Meskerem 1).....</u>	<u>13</u>
c.	<u>Finding Medeb and Wenber.....</u>	<u>14</u>
d.	<u>Finding Abektie and Metqi.....</u>	<u>14</u>
e.	<u>Finding BealeMetqi and Mebaja Hamer.....</u>	<u>14</u>
f.	<u>Finding holy days and fastings.....</u>	<u>15</u>
g.	<u>Finding TinteOn and Specific days of the Dates.....</u>	<u>17</u>
	✓ <u>Finding TinteOn.....</u>	<u>17</u>
	✓ <u>Finding Specific days of the Date.....</u>	<u>17</u>


# A) How to use Bahre Hasab

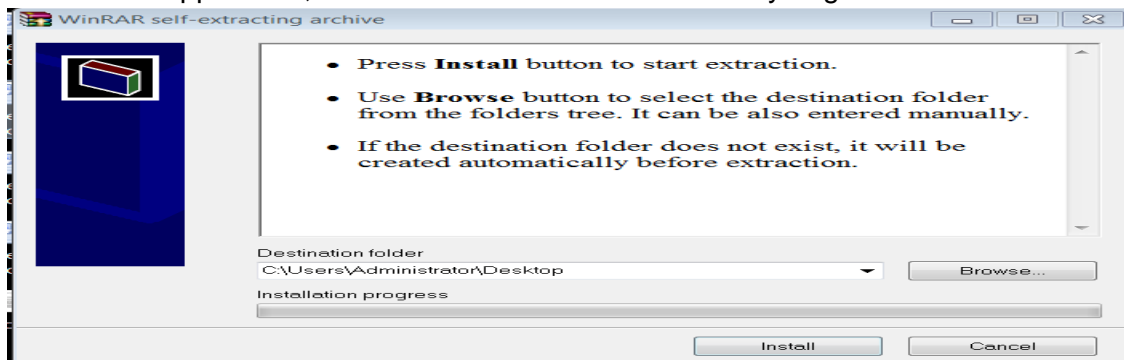
The **Bahire Hasab** is an application which is used to get the **Ethiopian Orthodox Tewahedo Church** fasting dates & Hollidays, Ethiopian calendar, basic information in calculating calendar of the church ,specific date in Ethiopian calendar,33 holidays of Virgin Saint Mary and constant fasting dates & holydays. It also helps to print the outputs for each year.

Now start to enjoy the ease of the Bahire Hasab as you master its features.

Begin now to master Bahire Hasab application now.

## 1) Starting Bahire Hasab

To start the application, 1st double click on  then you get this.



and

then choose Destinations folder and Install this wizard.

Now from your destination folder, Install JDK set up, and Double Clicks on the Run BahreHasab. You will see the form of fig1.1 below.

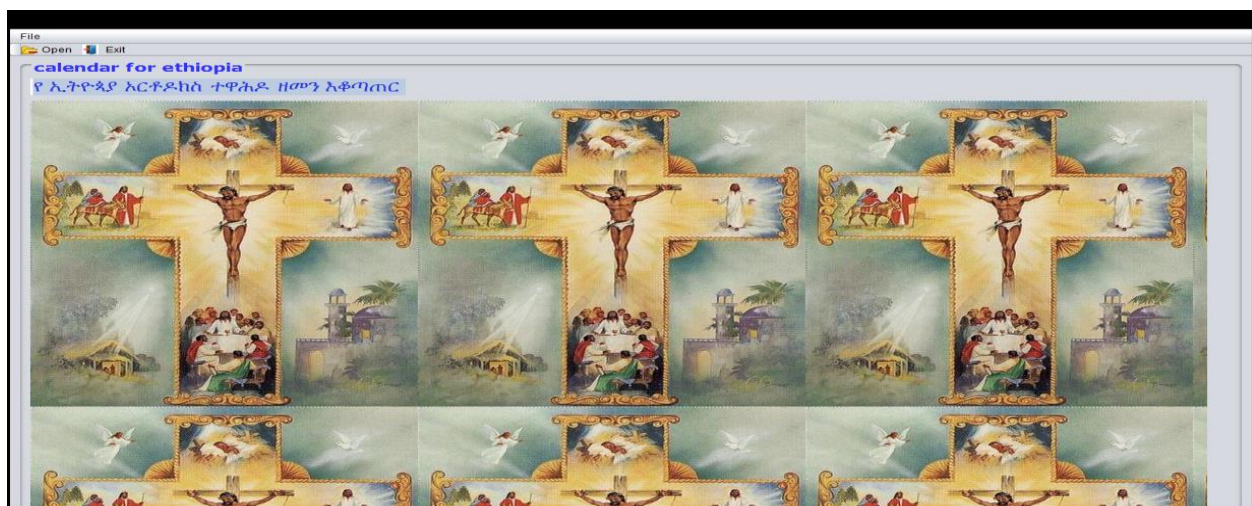


Fig1.1.Start up form

To Exist form the system

1. Click **Exit** button
2. Or click **File→Exit** button
3. Or press **Ctrl+E** from the keyboard

To enter in to the main form

1. Click **Open** button
2. Or click **File→Open** button
3. Or press **Ctrl+O** from the keyboard.

Then you will see the form fig1.2 below.

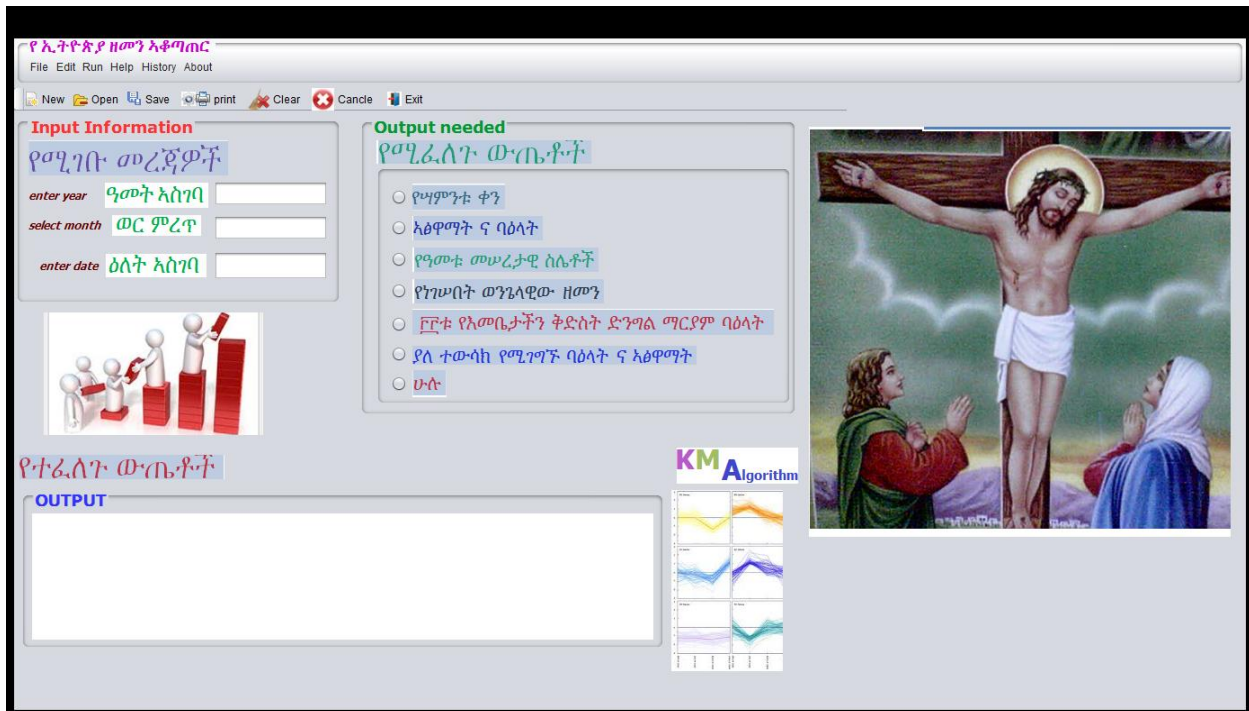


Fig1.2.The main form

## 2) Entering Input Information

- The choices under the frame **Input Information** used to enter the values that are needed for the calculation of the outputs needed.fig2 below is the frame to input information:

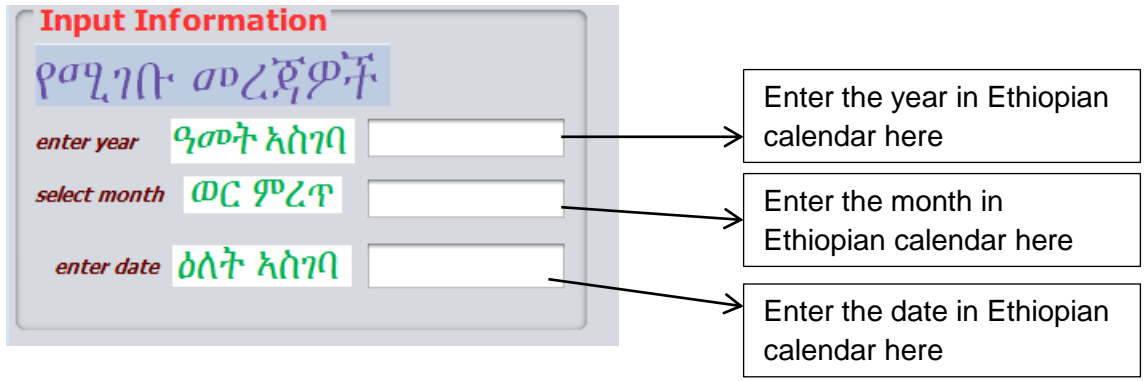


Fig2.the input information frame

**Note**

- You should enter integer number in the year, month and date.
- The dates should be from 1 up to 30, except for pagume month in which there are 5 or 6 .
- The month should be from 1 up to 13.
- The year should be greater than or equal to -5500.

**3) Selecting Output needed**

After you enter input information to display the output, use one of the following methods:

**Method 1:**

- The choices under the frame Output needed used to select the output to be displayed, Click on one of the circle in fig3.1 below.



Fig3.1.Output needed frame

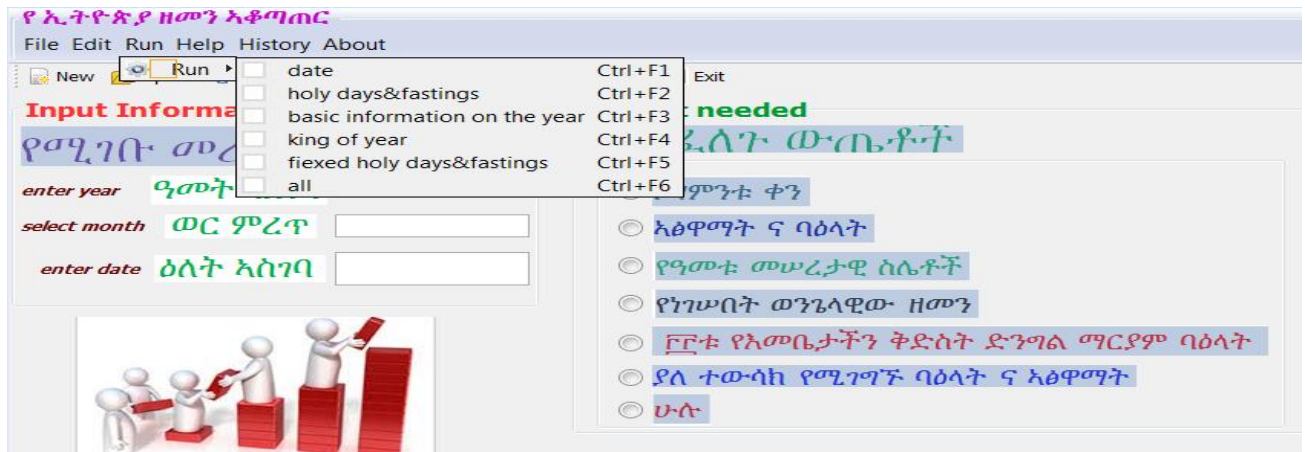
The numbers in the figure represent:

1. Finds the day of specific date
2. Obtain fasting dates and holidays of Ethiopian Orthodox church
3. Get the basic values in calculating Ethiopian Orthodox Tewahido Church Fasting days and holidays
4. Display specific month calendar of Ethiopia
5. Display 33 Holidays of Saint Virgin Mary in the Church.
6. To get the day of constant fasting dates and holidays
7. All of the above

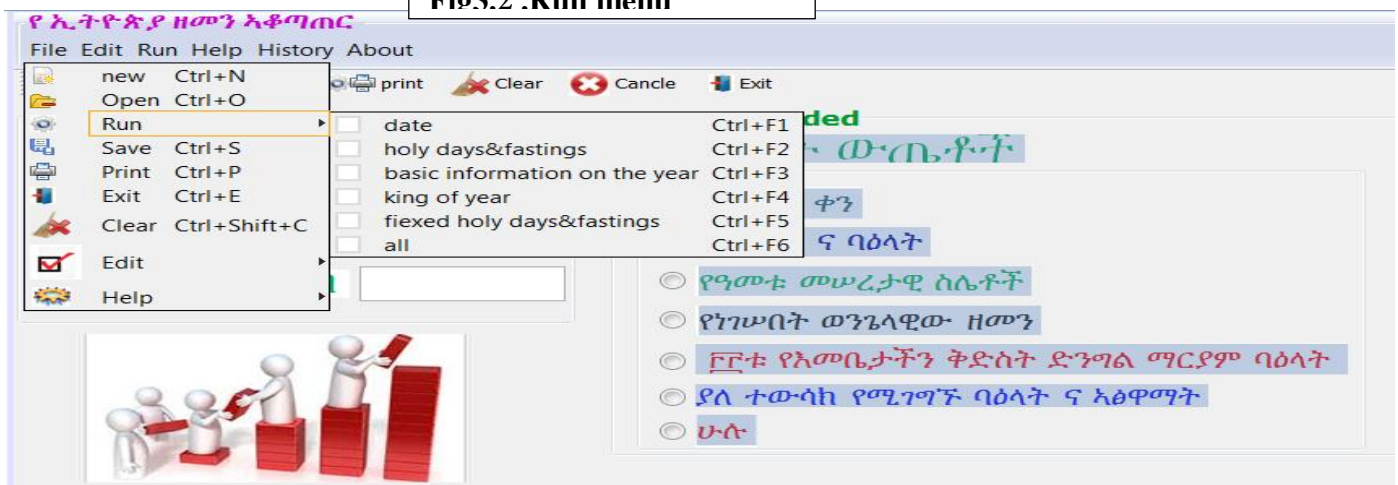
**Method 2:**

After you enter input information, to display the output use one of the following steps:

1. Click on the **Run** → **Run** → (select one of order button) fig3.2 below.
2. Or Click **File** → **Run** → (select one of order button) fig3.3 below.
3. Or press **Ctrl+(F1 to F6)**.



**Fig3.2 .Run menu**



**fig3.3 .file menu**

#### 4) Display Area

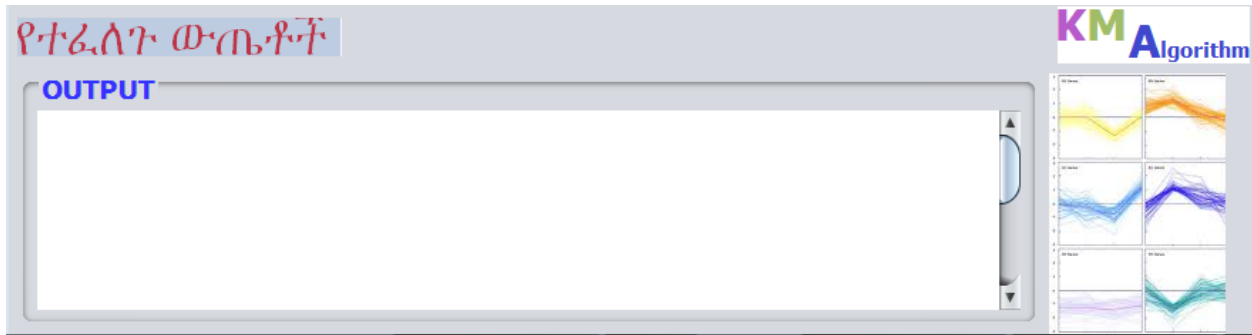


Fig4 .display area

#### 5) Clearing input and output information

If you want to clear the input and output needed information and give a new once without saving, you can use one of the following:

1. Click on the **Clear** button fig5.1 below.
2. Or Click **File**  $\Rightarrow$  **Clear** fig5.2 below.
3. Or press **Ctrl+Shift+C**

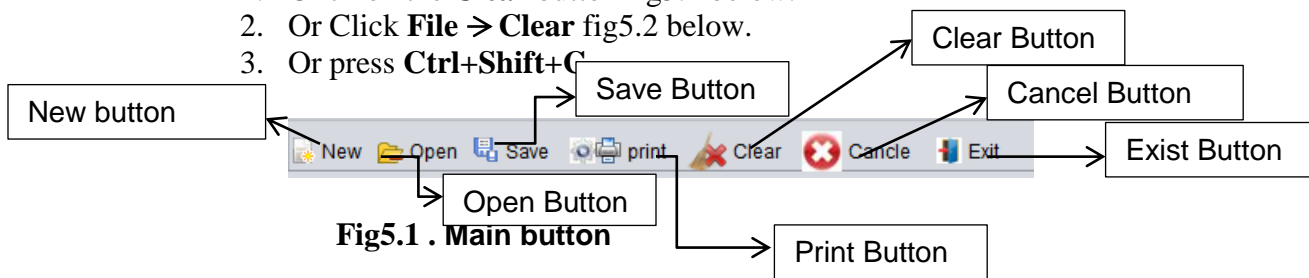


Fig5.1 . Main button

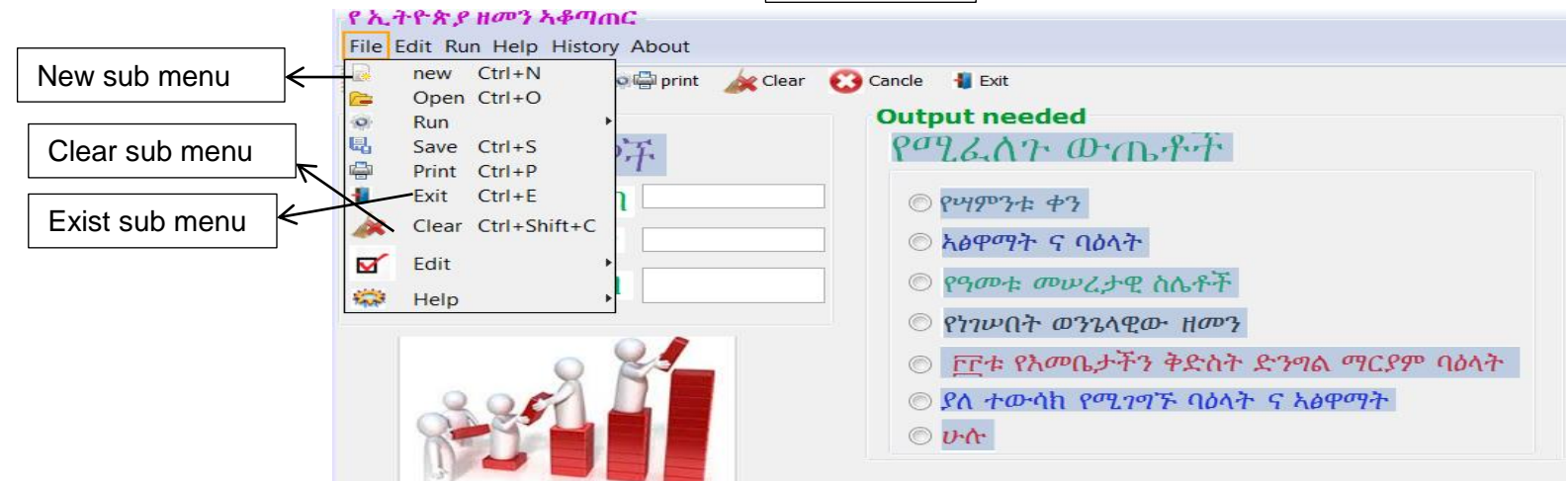


Fig5.2.Main sub menu

If you want to clear and save the input and output needed information and give a new once, you can use one of the following:

1. Click on the **New** button fig4.1 below.
2. Or Click **File**  $\Rightarrow$  **new** fig4.2 below.

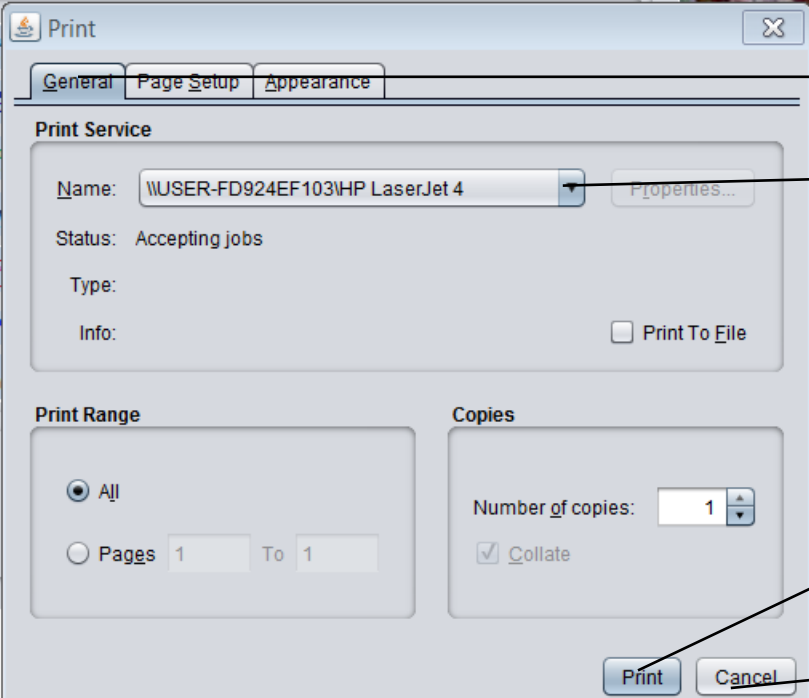
3. Or press **Ctrl+N**.

## 6) Print out

If you want to print out the data from fig4 above ;

1. Click **print** button fig5.1 above.
2. Or Click **File** → **Print** fig5.2 below.
3. Or press **Ctrl+P**.

4.



The screenshot shows a 'Print' dialog box with three tabs: 'General', 'Page Setup', and 'Appearance'. The 'General' tab is active. It contains a 'Print Service' section with a dropdown menu for printer selection (currently showing '\\USER-FD924EF103\HP LaserJet 4') and a 'Print To File' checkbox. Below this are 'Print Range' and 'Copies' sections. 'Print Range' has radio buttons for 'All' and 'Pages' (with input fields for '1' and '1'). 'Copies' has a 'Number of copies' spinner set to '1' and a checked 'Collate' checkbox. At the bottom are 'Print' and 'Cancel' buttons. Annotations with arrows point to: the 'General' tab (labeled 'Select output option'), the printer dropdown (labeled 'Select printer name'), the 'Print' button (labeled 'Click here to print'), and the 'Cancel' button (labeled 'Click here ignore for print').

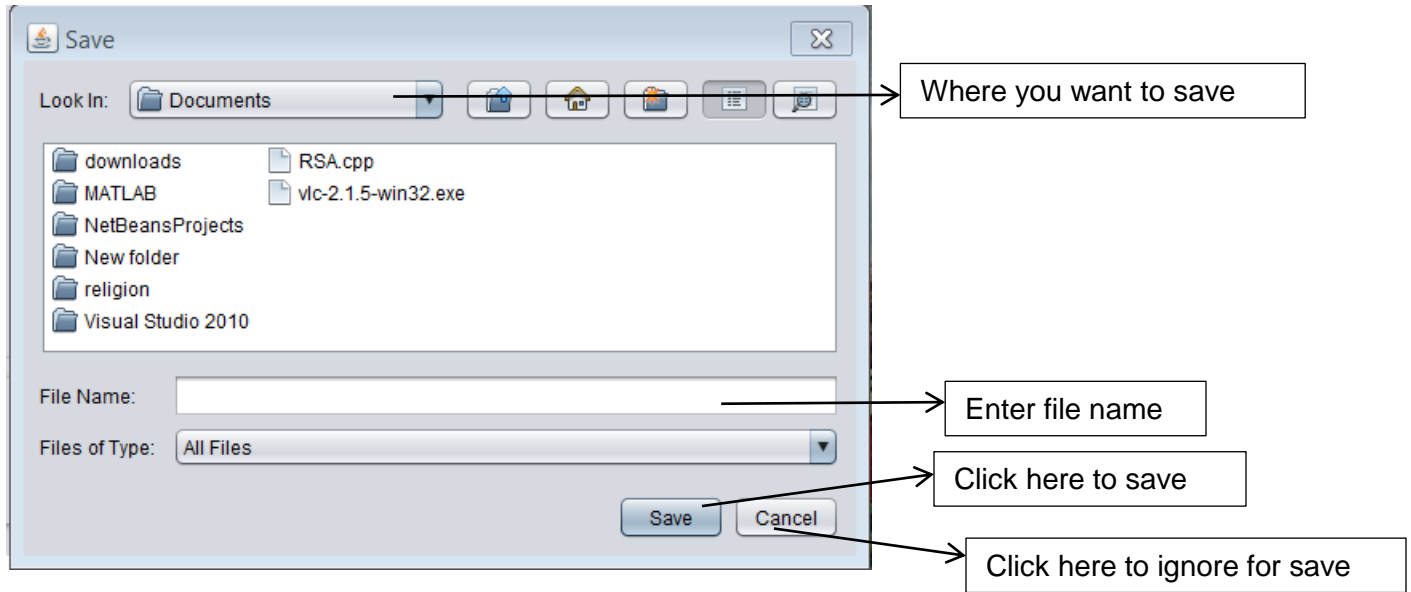
**Fig6.print data**

## 7) Save file

If you want to save data from Fig4 above:

1. Click **Save** button fig5.1 above.
2. Or Click **File** → **save** fig5.2 below.
3. Or press **Ctrl+S**.



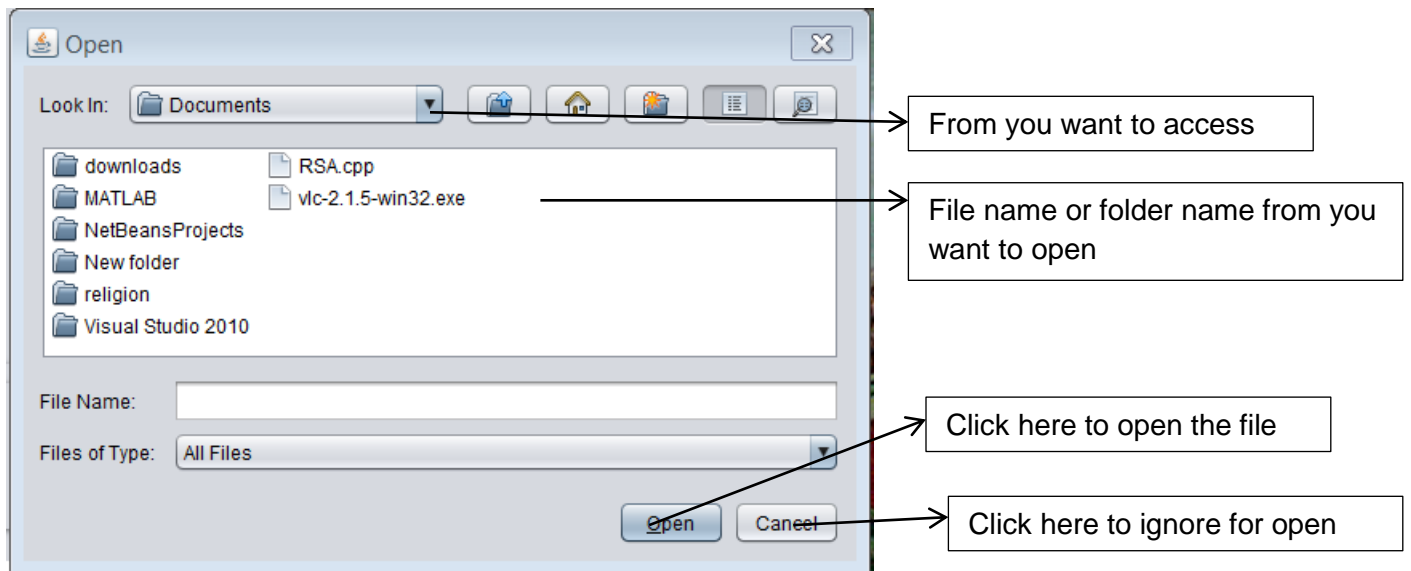


**Fig7.save file**

### 8) Access file from disk

If you want to access file from your disk, follow the following step;

1. Click on the **Open** button fig.1 above.
2. Or Click **File**→ **Open** fig5.2 above.
3. Or press **Ctrl+O**.



**Fig8.open file**

## 9) Exiting from the main and other forms

### Canceling the application at main

If you want to remove the main application, do this.

4. Click **Cancel** button fig4.1 above.

### Existing the whole application at main

1. Click on the **Exist** button fig5.1 above.
2. Or Click **File**  $\Rightarrow$  **Exist** fig5.2 above.
3. Or press **Ctrl+E**.

## 10) Help menu

When you click on help menu you have to get Fig 10 here.

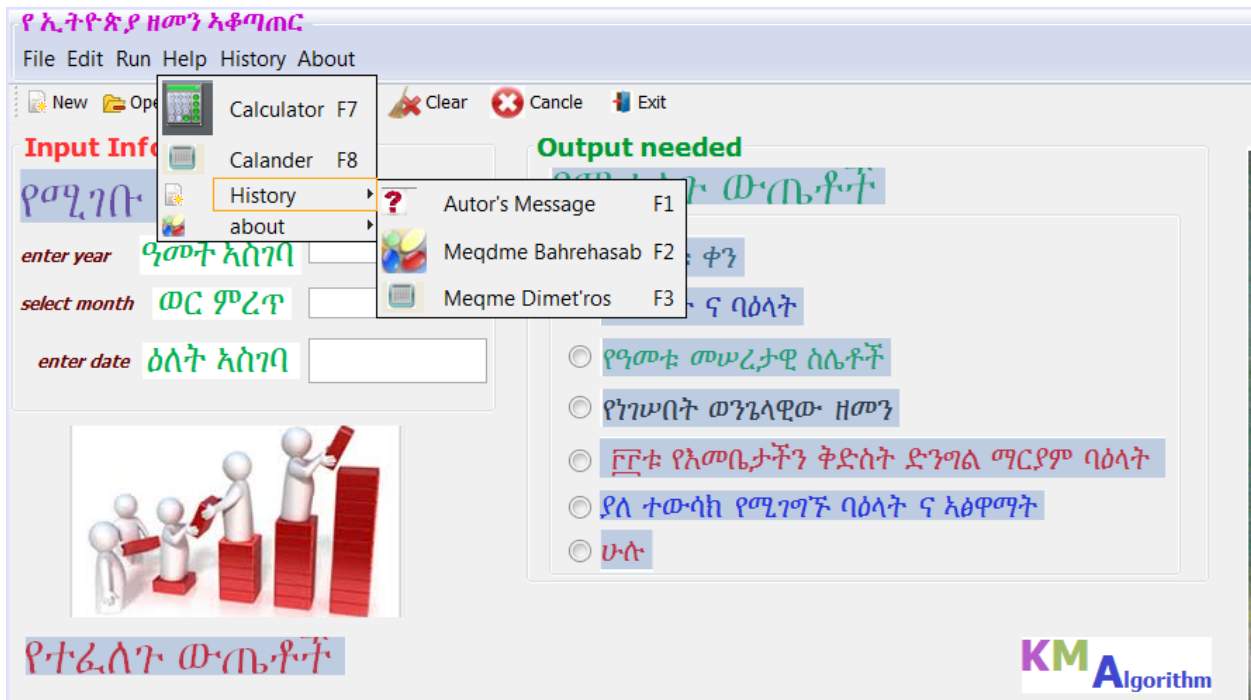


Fig 10.1.Help menu

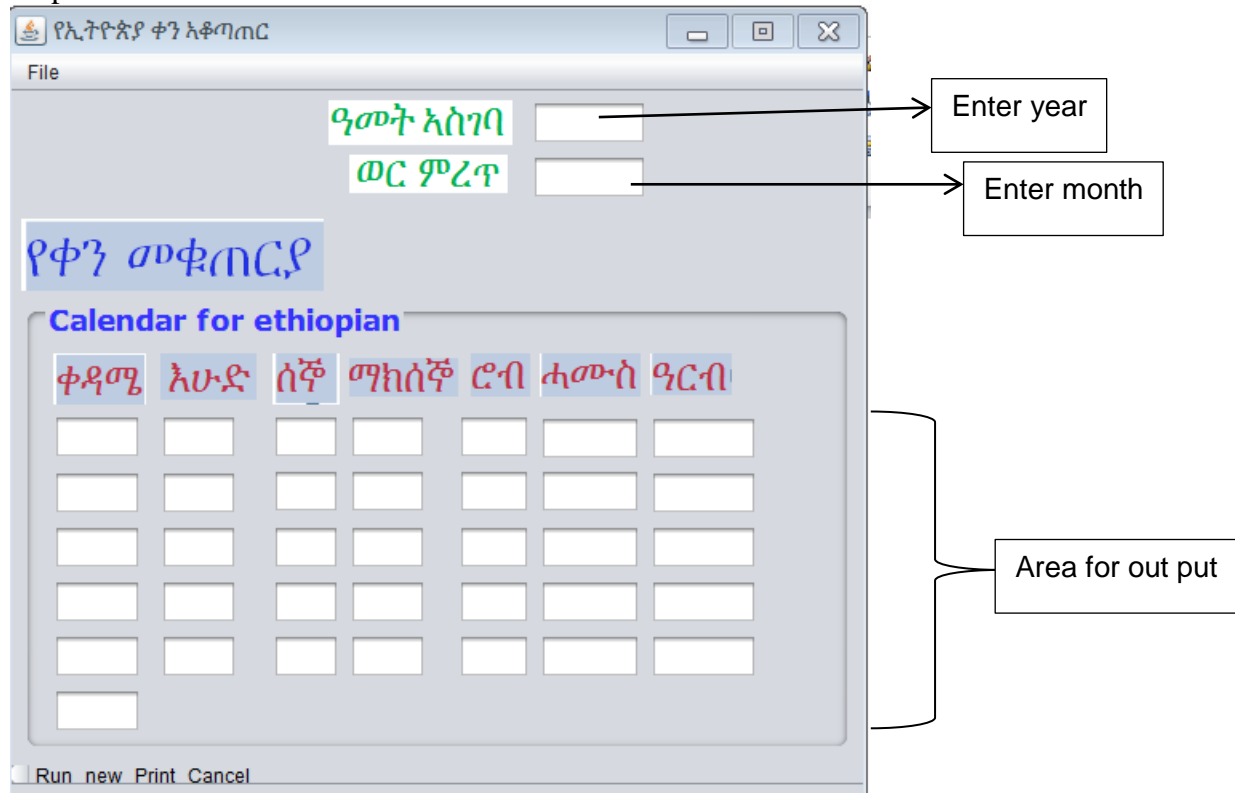
### To calculate something:

1. Click on the **Help**  $\rightarrow$  **Calculator** submenu Fig10.1 above.
2. Or Click **File**  $\Rightarrow$  **Help**  $\Rightarrow$  **Calculator** fig5.2 above.
3. Or press **F7**.



**To find out Calendar for Ethiopian:**

1. Click on the **Help** → **Calander** submenu Fig10.1 above.
2. Or Click **File**→**Help**→**Calander** fig5.2 above.
3. Or press **F8**.



4. Fig 10.2 Calendar

After you enter input information, to display the output use one of the following steps:

1. Click **Run** button Fig10.2 above.
2. Or Click on the **File** → **Run** submenu Fig10.3 below.
3. Or press **Ctrl+R**.

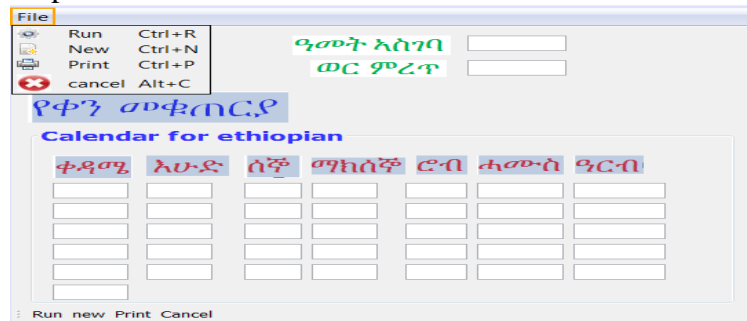


Fig 10.3 Run calendar

### To know history of Bahre Hasab:

In this case we have 3 parts:

- 1) Author's message
  - I. Click on the **Help→History → Autor's Message** submenu Fig10.1
  - II. Or Click on the **History → Autor's Message** menu Fig10.1
  - III. Or Click **File → Help →History → Autor's Message** fig5.2 above.
  - IV. Or press **F1**.
- 2) Meqdme bahre hasab
  - I. Click on the **Help→History → Meqdme Bahrehasab** menu Fig10.1
  - II. Or Click on the **History→Meqdme Bahrehasab** menu Fig10.1
  - III. Or Click **File→Help →History → Meqdme Bahrehasab** fig5.2
  - IV. Or press **F2**.
- 3) Meqdme Dimetro's
  - I. Click on the **Help→History → Meqdme Dimetro's** menu Fig10.1
  - II. Or Click on the **History → Meqdme Dimetro's** menu Fig10.1
  - III. Or Click **File → Help → History→Meqdme Dimetro's** fig5.2
  - IV. Or press **F3**.

### To read the PDF about Bahrehasab in Amharic:

In this case we have two parts:

1. About Bahre Hasab
  - I. Click on the **Help→about → about Bahrehasab** menu Fig10.1
  - II. Or Click on the **About → about Bahrehasab** menu Fig10.1
  - III. Or Click **File→Help → about→ about Bahrehasab** fig5.2
  - IV. Or press **F5**.
2. About Sraete Hmamat
  - I. Click on the **Help →about →sraete Hmamat** menu Fig10.1
  - II. Or Click on the **About → sraete Hmamat** menu Fig10.1
  - III. Or Click **File→Help → about→ sraete Hmamat** fig5.2
  - IV. Or press **F6**.

Here is the example for 1/1/2007 e.c

**የኢትዮጵያ ዘመን አቆጣጠር**  
File Edit Run Help History About

New Open Save print Clear Cancel Exit


**Input Information**

የሚገቡ መረጃዎች

enter year **ዓመት አስገባ** 2007

select month **ወር ምረጥ** 1


enter date **ዕለት አስገባ** 1



**Output needed**

የሚፈለጉ ውጤቶች

- የሳምንት ቀን
- አጠቃላይ ቀን
- የዓመቱ መሠረታዊ ስሌቶች
- የገንዘብ ወንጌላዊው ዘመን
- የጥቅምት የአመታችን ቅድስት ደንግል ማርያም ባዕላት
- ያለ ተውሳክ የሚገግኙ ባዕላት ና አጠቃላይ
- ሁሉ



**የተፈለጉ ውጤቶች**

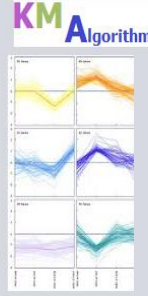
**OUTPUT**

Baela-Hamsa(Erget):Ginbot,13

Baele-Paraqiltos:Ginbot,23

Tsome-Hawaryat:Ginbot,24

Tsome-Dhnet:Ginbot,26



File

**የተረጎ ቀን** Hamus1/1/2007

cancel print

File

**የዓመቱ መሠረታዊ ስሌቶች**

**ዓመት ዓለም** 7507=5500+2007

**ወንበር** 1

**አብቅቴ** 11

**መጥቅላ** 19

**መባጃሐመር** 25

**ባዕለ መጥቅላ** 19Meskerm(Segno)

**ጥንተ ዮን** 2

**ዘመን** Luqas

**መጠነ ራብዒት** 3

print Cancel

## B) General Information about Ethiopian Orthodox tewahido church

### 1) Finding AmeteAlem(year of creation) and Wengelawi

AmeteAlem(year of creation) is the sum of the number of years before birth of Jesus Christ and after the birth of Christ. The years before the birth of Christ (5500years) are called zemene\_Fida, zemene\_kunenie or zemene\_Bluy . But the years after are as a whole called Amete\_mihiret, zemene\_siggawe, zemene\_haddis or zemene\_mesih.

$$\text{AmeteAlem} = \text{zemene\_Bluy} + \text{zemene\_haddis}.$$

**Example:-**In 1997E.C,

$$\text{AmeteAlem} = 5500 + 1997 = 7497$$

Wengelawi means writers of gospel. The years are named after the four apostles, namely Mathewos (Mathew), Markos (Mark), Lukas (Luke) and Yohannes (John).

To get the Wengelawi divide AmeteAlem by four and if the remainder is:-

- 1, then it is Mathewos.
- 2, then it is Markos
- 3, then it is Lukas
- 0, then it is Yohannes

The quotient without the remainder is called **MeteneRabiet**.

**Example: -** In 1997E.C,

$$(7497/4) = 1874 \text{ remaining } 1$$

Remainder 1 implies the Wengelawi is Mathewos. And 1874 is MeteneRabiet

### 2) Finding New year (Meskerem 1)

To know the date the new year starts, add AmeteAlem(year of creation) and Metene Rabiet then divide by 7. The remainder is given the name **Tinte Qemer**. Tinte Qemer is the first Tuesday that numbers begun.

If TinteQemer is:-

- 0, then the new year starts at Monday.
- 1, then the new year starts at Tuesday.
- 2, then the new year starts at Wednesday
- 3, then the new year starts at Thursday
- 4, then the new year starts at Friday.
- 5, then the new year starts at Saturday.
- 6, then the new year starts at Sunday.

**Example:** - In 1997E.C, (Recall that AmeteAlem is 7497)  
 $((7497+1874)/7)=1338$  remaining 5 which is Tinte Qemer. Therefore, the year starts on Saturday (Meskerem 1).

### 3) Finding Medeb and Wenber

*Medeb* is obtained from the remainder of AmeteAlem(year of creation) divided by 19(Nuskemer).

*Wenber* is obtained by subtracting 1 from Medeb and is useful for finding Metqi and Abektie which are used in calculating fasting dates and holidays.

**Example:**-In 1997,

$(7497/19)=394$  remaining 11.

Therefore, Medeb of the year is 11 and Wenber is  $11-1 = 10$ .

#### Note

- If remainder is 0, Medeb is 0 and Wenber is 18.
- If remainder is 1, Medeb is one and Wenber is 0.

### 4) Finding Abektie and Metqi

Multiplying Wenber by 11 and if the product is greater than 30 ,it is then divided by 30.The remainder in the division is called Abekte.

Note that for products less than 30 the product itself is taken as the Abekte value.

Similarly Metqi is obtained by multiplying Wenber by 19 and taking the remainder of the quotient in dividing the product by 30.If the product is less than 30 the product itself will be the Metqi of the year.

**Example:**-In 1997E.C,

$(10*11)/30=3$  with remainder 20.This implies Abektie=20.

$(10*19)/30=6$  with remainder 10.This implies Metqi=10.

#### Note

- Always Metqi + Abektie=30
- If Abektie is 0 Metqi is 30

### 5) Finding BealeMetqi and Mebaja Hamer

Metqi is used to obtain fasting dates and holidays of the Ethiopian Orthodox Tewahido Church.Beale Metqi is the date assigned by Metqi.

- If Metqi is greater than 14, then Beale-Metqi is in Meskerem (from Meskerem 15-30)
- If Metqi is less than 14, then Beale-Metqi is in Tikimt (from Tikimt 1-13)

**NB:** - Metqi can not be 14. It can not also be 1, 3, 6, 9, 11, 17, 20, 22, 25 and 28. There are only 19 numbers.

- If Beale-Metqi is in Meskerem, Fasting date for Neneveh is in Tir.
- If it is in Tikimt, Neneveh is in Yekatit
- But if Beale Metqi is in Meskerem and it is added with Tewsak of the day to be greater than 30, then Neneveh is in Yekatit by taking the extra days above 30.

If Beale Metqi is in Saturday, the number of days between the next day of Beale Metqi and Neneveh is 128.

128 divided by 30 gives remainder 8. This remainder is called Tewsak of the Saturday (Tewsak of the day). Similarly the Tewsaks of the week are shown in the following table:

Day	NO of days up to Neneveh	Tewsak of the day
Sunday	127	7
Monday	126	6
Tuesday	125	5
Wednesday	124	4
Thursday	123	3
Friday	122	2
Saturday	128	8

Mebaja Hamer is obtained by adding Beale Metqi and Tewsak of the day of Beale Metqi. If the result is greater than 30 as usual the remainder is taken.

**Example:-** In 1997E.C,

we saw that Metqi is 10. This implies that Beale Metqi is Tikimt 10. Since Meskerem 1 is Saturday, Tikimt 1 is Monday, Tikimt 8 is Monday, and Beale Metqi (Tikimt 10) is Wednesday.

Mebaja Hamer = 10 + Tewsak of Wednesday = 10 + 4 = 14

## 6) Finding holy days and fastings

To obtain Fasting dates, first it is necessary to get the date for Neneveh. Neneveh fasting date is directly the Mebaja Hamer number. The month is obtained by the rules indicated above for Beale Matqi. i.e.

- If Matqi is above 14, Beale Matqi is in Meskerem then Neneveh is in Tir.



- If Matqi is below 14, Beale Matqi is in Tikimt then Neneveh is in Yekatit.

Tewsak of fasting dates and holydays are the number of days from the next day of Neneveh up to the date of that fasting(entrance date) or holiday.

If it is greater than 30, it's divided by 30 and the remainder will be Tewsak

**Example:-**For Debre zeit, the number of days after Neneveh is 41,  
 $41/30=1$  with remainder 11.

Therefore, the Tewsak of Debre zeit is 11. Similarly Tewsaks of the fasting dates and holidays are shown below.

<b>Fasting dates and holidays</b>	<b>Tewsak</b>
Abiy Tsome	14
Debre zeit	11
Hosanna	2
Good friday	7
Tinsaye	9
Rkbe Kahnat	3
Ascension	18
Paraclet	28
Fasting of Holy Apostles	29
Weekly fastiner	1

**NOTE:-**Neneveh doesn't have Tewsak.

Fasting dates & Holydays are obtained as follows:

- To obtain Neneveh directly take the Mebaja Hamer number as the date and the month as explained above rule following the rules for Matqi and Beale Matqi.
- To obtain Abiy Tsome, Count 14 days after Neneveh.
- To obtain Debre zeit, Count 41 days after Neneveh.
- To obtain Hosanna, Count 62 days after Neneveh.
- To obtain Good friday , Count 67 days after Neneveh.
- To obtain Tinsaye, Count 69 days after Neneveh.
- To obtain Rikbe Khahnat, Count 93 days after Neneveh.
- To obtain Ascension, Count 108 days after Neneveh.
- To obtain Paraclet, Count 118 days after Neneveh.
- To obtain Fasting of Holy Apostles, Count 119 days after Neneveh.
- To obtain Weekly fastiner, Count 121 days after Neneveh.

## 7) Finding TinteOn and Specific days of the Dates

### Finding TinteOn

TinteOn is the first Wednesday in which Sun, Moon and Stars were created. Add AmeteAlem & Metene Rabet and divide the sum by 7. Then remainder minus one gives **TinteOn**.

If TinteOn is

- 1 then Meskerem 1 is Wednesday
- 2 then Meskerem 1 is Thursday
- 3 then Meskerem 1 is Friday
- 4 then Meskerem 1 is Saturday
- 5 then Meskerem 1 is Sunday
- 6 then Meskerem 1 is Monday
- 7 then Meskerem 1 is Tuesday

**Example:**-In 1997 E.C.,

$(1874+7497)/7=1338$  remainder 5. Therefore,  $5-1=4$  is TinteOn and Meskerem1 is Saturday.

**AtsfeAwrha** is the 2 days remained when 30 days of the month are divided by 7.

### Finding Specific days of the Date

$(TinteOn + AtsfeAwrha + date + 2) / 7$  If the remainder is:- 1. Sunday 2. Monday 3. Tuesday  
4. Wednesday 5. Thursday 6. Friday 7. Saturday

**Example:**-Find the day of Yekatit 22, 1997 EC

$[4 + 2(6-1) + 2 + 22] / 7 = 5$  remainder 3. Therefore Yekatit 22 is Tuesday.

**Note:** Yekatit is the sixth month in Ethiopian Calendar.