WHAT IS CLAIMED IS:

1. A method for determining a consciousness level of a patient, the method comprising:

a step of extracting components of one or more frequency bands from a first section of an EEG;

a step of calculating a first index for each of the components of one or more frequency bands, wherein the first index is calculated based on a degree to which a magnitude of each of the components of one or more frequency bands with respect to a magnitude of a predetermined reference component in the first section exceeds a predetermined threshold value;

a step of calculating a probability value for each of one or more patient statuses from the first index for each of the components of one or more frequency bands using a trained artificial neural network; and

a step of determining the consciousness level of the patient based on the probability value for each of the one or more calculated patient statuses~~.~~;

wherein the components of one or more frequency bands include a magnitude of a component of each of the frequency bands at one or more time point belonging to the first section, and

wherein the step of calculating the first index comprises:

a step of calculating the magnitudes of the components of one or more frequency bands with respect to a magnitude of the reference component for each of the one or more time points;

a step of determining a time point at which the calculated magnitudes exceed the predetermined threshold value as an excess time point; and

a step of calculating the first index based on a ratio of a number of excess time points to a total number of time points belonging to the first section.

2. The method of claim 1, wherein, before the step of extracting the components of one or more frequency bands, the method further comprises:

a step of acquiring the patient's EEG;

a step of generating the first section of the EEG including at least a part of the acquired EEG; and

a step of removing noise from the first section of the EEG, and

wherein, in the step of extracting the components of one or more frequency bands, the components of one or more frequency bands are extracted from the first section of the EEG, from which the noise has been removed.

3. The method of claim 2, wherein, in the step of acquiring the EEG, the EEG of the patent sampled at a predetermined sampling frequency is acquired.

4. The method of claim 2, wherein, in the step of generating the first section of the EEG, the first section of the EEG is generated such that the EEG within a predetermined time interval from a time point of determining the consciousness level is included therein.

5. The method of claim 2, wherein, the step of removing the noise comprises:

a step of replacing a first partial section including a time point at which the magnitude of the EEG exceeds a predetermined threshold magnitude within the first section of the EEG with a second partial section different from the first partial section, and

wherein the first partial section and the second partial section are at least a part of the first section.

6. The method of claim 2, wherein the step of removing the noise comprises:

a step of replacing the first section of the EEG with a second section of the EEG when a pattern, in which the magnitude of the EEG within the first section of the EEG exceeds the predetermined threshold magnitude, corresponds to a preset pattern,

wherein the second section is different from the first section and is at least a part of the EEG.

7. The method of claim 1, wherein, in the step of extracting, a first component of 0.5 to 4 Hz, a second component of 4 to 8 Hz, a third component of 8 Hz to 16 Hz, a fourth component of 16 to 25 Hz, a fifth component of 25 to 30 Hz, a sixth component of 30 to 48 Hz, and a reference component of 0.5 to 55 Hz are extracted from the first section of the EEG.

~~8. The method of claim 1, wherein the components of one or more frequency bands include a magnitude of a component of each of the frequency bands at one or more time point belonging to the first section, and~~

~~wherein the step of calculating the first index comprises:~~

~~a step of calculating the magnitudes of the components of one or more frequency bands with respect to a magnitude of the reference component for each of the one or more time points;~~

~~a step of determining a time point at which the calculated magnitudes exceed the predetermined threshold value as an excess time point; and~~

~~a step of calculating the first index based on a ratio of a number of excess time points to a total number of time points belonging to the first section.~~

~~9~~8. The method of claim ~~8~~1, wherein the predetermined threshold value is determined based on an absolute magnitude of the reference component within the first section.

~~10~~9. The method of claim 1, wherein, before the step of calculating the probability value, the method further comprises:

a step of generating input data of the artificial neural network using a combination of first indices for each of the components of one or more frequency bands.

~~11~~10. The method of claim ~~10~~9, wherein a first index for each of N frequency bands (N is a natural number) is calculated from the first section of a first EEG of the patient acquired through a first channel, and a first index for each of the N frequency bands is calculated from a first section of a second EEG of the patient acquired through a second channel distinguished from the first channel, and

wherein the step of generating the input data comprises:

a step of generating N^2 pieces of first input data based on a combination of the N first indices for the first channel and the N second indices for the second channel;

a step of generating N pieces of second input data corresponding to the N first indices for the first channel;

a step of generating N pieces of third input data corresponding to the N first indices for the second channel;

a step of generating M pieces of fourth input data (M is a natural number) based on an EMG signal; and

a step of generating the input data including the first input data, the second input data, the third input data, and the fourth input data.

~~12~~11. The method of claim ~~11~~10, wherein the N is 6, and the M is 1.

~~13~~12. The method of claim 1, wherein the artificial neural network is a neural network that includes data on which an EEG characteristic has been reflected and data on which an EMG characteristic has been reflected, and that has learned correlations between the EEG characteristic, the EMG characteristic, and the patient status based on training data labeled with the patient status data corresponding to the EEG characteristic and the EMG characteristic,

wherein the data on which the EEG characteristic has been reflected comprises:

N^2 pieces of first data based on a combination of N first indices (N is a natural number) for an EEG acquired through a first channel and N first indices for an EEG acquired through the second channel;

N pieces of second data corresponding to the N first indices for the first channel;

N pieces of third data corresponding to the N first indices for the second channel; and

M pieces of fourth data (M is a natural number) based on the EMG signal,

wherein the patient status data includes a probability that the patient corresponds to each of K patient statuses (K is a natural number).

~~14~~13. The method of claim 1, wherein the step of determining the consciousness level comprises:

a step of calculating a normalized probability value by normalizing a probability value for each of the one or more patient statuses;

a step of applying a weight set corresponding to a patient status having a largest probability value among normalized probability values to the normalized probability values; and

a step of determining the consciousness level based on a sum of weighted normalized probability values.

~~15~~14. The method of claim ~~14~~13, wherein the one or more patient statuses comprises an awake status, a sedation status, a general anesthesia status, a deep anesthesia status, and a brain death status, and

wherein, in the step of applying the weight set, any one of weight sets for each of the five patient statuses is applied to the normalized probability values.

~~16~~15. The method of claim ~~14~~13, wherein, in the step of determining the consciousness level based on the sum of the weighted normalized probability values, the consciousness level is determined based on a first consciousness level obtained by applying a predetermined first weight to the sum of the weighted normalized probability values and a consciousness level obtained by applying a second weight value to a second consciousness level determined through a second method.

~~17~~16. A non-transitory computer-readable storage medium storing a program that, when executed using a computer, causes the method of any one of claim 1 to be performed.