CLAIMS

1. A light-emitting element comprising:

n (*n* is a natural number of two or more) light-emitting layers between an anode and a cathode;

a first layer between an *m*-th (*m* is a natural number, $1 \leq m \leq n-1$) light-emitting layer and an $(m + 1)$-th light-emitting layer, wherein the first layer contains one selected from the group consisting of an alkali metal, an alkaline earth metal, a rare earth metal, an alkali metal compound, an alkaline earth metal compound, and a rare earth metal compound;

a second layer between the first layer and the $(m + 1)$-th light-emitting layer, wherein the second layer contains a substance having electron-transport property; and

a charge-generation layer between the second layer and the $(m + 1)$-th light-emitting layer, wherein the charge-generation layer contains a substance having hole-transport property and an acceptor substance,

wherein the substance having hole-transport property is a carbazole derivative or aromatic hydrocarbon,

wherein the acceptor substance is a transition metal oxide or an oxide of a metal belonging to any of Groups 4 to 8 of the periodic table,

wherein a mass ratio of the acceptor substance to the substance having hole-transport property in the charge-generation layer is from 0.1 : 1 to 4.0 : 1, both inclusive, and

wherein the substance having electron-transport property in the second layer is a perylene derivative or a nitrogen-containing condensed aromatic compound.

2. The light-emitting element according to claim 1, wherein the substance having electron-transport property in the second layer has a LUMO level of greater than or equal to –5.0 eV.

3. The light-emitting element according to claim 1, wherein each of the substance having hole-transport property and the acceptor substance does not have an absorption

peak in a wavelength range of 420 nm to 720 nm.

4. The light-emitting element according to claim 1, wherein the substance having hole-transport property does not contain an amine skeleton.

5. The light-emitting element according to claim 1, wherein the acceptor substance is molybdenum oxide.

6. A light-emitting device comprising the light-emitting element according to claim 1.

7. An electronic device comprising the light-emitting device according to claim 6.

8. A lighting device comprising the light-emitting device according to claim 6.

9. A light-emitting element comprising:

n (n is a natural number of two or more) light-emitting layers between an anode and a cathode;

a first layer between an m-th (m is a natural number, $1 \leq m \leq n-1$) light-emitting layer and an $(m + 1)$-th light-emitting layer, wherein the first layer contains a substance having an electron-transport property and a donor substance;

a second layer between the first layer and the $(m + 1)$-th light-emitting layer, wherein the second layer contains a substance having electron-transport property; and

a charge-generation layer between the second layer and the $(m + 1)$-th light-emitting layer, wherein the charge-generation layer contains a substance having hole-transport property and an acceptor substance,

wherein the substance having hole-transport property is a carbazole derivative or aromatic hydrocarbon,

wherein the acceptor substance is a transition metal oxide or an oxide of a metal belonging to any of Groups 4 to 8 of the periodic table,

wherein a mass ratio of the acceptor substance to the substance having hole-

transport property in the charge-generation layer is from 0.1 : 1 to 4.0 : 1, both inclusive, and

wherein the substance having electron-transport property in the second layer is a perylene derivative or a nitrogen-containing condensed aromatic compound.

10. The light-emitting element according to claim 9, wherein a mass ratio of the donor substance to the substance having electron-transport property in the first layer is from 0.001 : 1 to 0.1 : 1, both inclusive.

11. The light-emitting element according to claim 9, wherein the donor substance is one selected from the group consisting of an alkali metal, an alkaline earth metal, a rare earth metal, an alkali metal compound, an alkaline earth metal compound, and a rare earth metal compound.

12. The light-emitting element according to claim 9, wherein the substance having electron-transport property in the second layer has a LUMO level of greater than or equal to −5.0 eV.

13. The light-emitting element according to claim 9, wherein each of the substance having hole-transport property and the acceptor substance does not have an absorption peak in a wavelength range of 420 nm to 720 nm.

14. The light-emitting element according to claim 9, wherein the substance having hole-transport property does not contain an amine skeleton.

15. The light-emitting element according to claim 9, wherein the acceptor substance is molybdenum oxide.

16. A light-emitting device comprising the light-emitting element according to claim 9.

17. An electronic device comprising the light-emitting device according to claim 16.

18. A lighting device comprising the light-emitting device according to claim 16.