CLAIMS

What is claimed is:

1. A titanium material,

wherein, when a chemical composition of a surface is analyzed by X-ray photoelectron spectroscopy, the titanium material contains, as a composition of the surface;

Zn: 0.1 atom% or more and 1.0 atom% or less, and

Ca: 0.5 atom% or more and 1.5 atom% or less, and

the titanium material contains, as a composition of a surface oxide film;

C: 0.5 atom% or more and 20.0 atom% or less, and

F: 1.0 atom% or more and 5.0 atom% or less.

2. The titanium material according to claim 1,

wherein the surface oxide film has a thickness of 5 to 20 nm.

3. A method for manufacturing a titanium material, comprising:

a cleaning step of cleaning a titanium raw material,

wherein the cleaning step includes;

an immersion treatment of immersing the titanium raw material in an aqueous solution having a temperature of 40°C to 60°C for 1.0 minutes or longer,

where the aqueous solution contains,

a zinc salt: 0.00030 to 0.65000 mass% in terms of Zn,

a calcium salt: 0.00060 to 0.40000 mass% in terms of Ca,

HF: 1.0 to 6.0 mass%, and

HNO_3: 4.0 to 10.0 mass%, and

a water washing treatment of washing the titanium raw material lifted from the aqueous solution with water.

4. The method for manufacturing a titanium material according to claim 3, wherein the zinc salt is 0.00030 to 0.00100 mass% in terms of Zn, and the calcium salt is 0.00060 to 0.00108 mass% in terms of Ca.

5. The method for manufacturing a titanium material according to claim 3 or 4, wherein the zinc salt is $ZnCl_2$.

6. The method for manufacturing a titanium material according to claim 3 or 4, wherein the calcium salt is $CaCl_2$.

7. The method for manufacturing a titanium material according to claim 5, wherein the calcium salt is $CaCl_2$.

8. The method for manufacturing a titanium material according to claim 3 or 4, further comprising:

a heating step of heating the titanium raw material after the cleaning step to 300°C to 900°C in an inert atmosphere.

9. The method for manufacturing a titanium material according to claim 5, further comprising:

a heating step of heating the titanium raw material after the cleaning step to 300°C to 900°C in an inert atmosphere.

10. The method for manufacturing a titanium material according to claim 6, further comprising:

a heating step of heating the titanium raw material after the cleaning step to 300°C to 900°C in an inert atmosphere.

11. The method for manufacturing a titanium material according to claim 7, further comprising:

a heating step of heating the titanium raw material after the cleaning step to 300°C to 900°C in an inert atmosphere.