1. The corrosion resistance of alloys is dependant on heat treatment.
2. Uniform corrosion is generally far more dangerous than localized corrosion.
3. Passivity means loss of chemical stability of metals and alloys.
4. Difference in composition of the parent alloy and solder alloy, may develop concentration cell corrosion
5. Lower anode/cathode ratio may lead to localized corrosion
6. To decrease the rate of corrosion, you should paint anode by varnish
7. Tarnish is a sign of corrosion in a later stage.
8. Cathodic reactions can be considered to be the primary driving face in electrolytic corrosion.
9. Tarnish layer may be protective and prevent further corrosion.
10. Corrosion tendency of metals and alloys increased when oxygen tension decreases.
11. Galvanic cell corrosion takes place only when two different metallic restorations are present opposing each other.
12. Corrosion resistance of cold worked metals/alloys is lower than cast ones.
13. A solid solution type of alloy is a homogenous structure which is highly a corrosion resistant.

***Match the following*** :

|  |  |
| --- | --- |
| 1. Cathode. | a. More prone to corrosion. |
| 2. Grain boundary zone. | b. Limits reactivity of the alloy. |
| 3. Oxidation of dental alloy | c. A type of uniform corrosion. |
| 4. Difference in electrolytic  composition | d. A type of localized corrosion. |
|  | e. Driving force in corrosion process. |

***Choose the correct answer***:

1. In electrolytic cell:
   1. Anode has higher electrode potential.
   2. Cathode has higher dissolution tendency.
   3. Cathode has higher electrode potential.
2. Due to the difference in composition of the parent alloy and solder alloy the following may occur:
   1. Concentration cell corrosion.
   2. Galvanic cell corrosion.
   3. Chemical corrosion.
3. If consuming the electrons at the cathode is higher than the production of electrons at the anode.
   1. The corrosion rate will be higher.
   2. The corrosion rate will be lower.
   3. The corrosion rate will not be affected.

***Give reasons for***:

1. Corrosion resistance of cold worked structures is lower than cast ones.
2. In case of presence of dissimilar metals, we must increase anode/ cathode area.
3. Cleaning of base metal alloys using household bleaches must be avoided.
4. Causes of concentration cell corrosion in patient's mouth and how to overcome.
5. The addition of chromium and/or titanium in dental base metal alloys is essential
6. All dental base metal alloys should contain chromium and/or titanium.
7. In dental standard, silver is not considered noble metal.
8. Dental amalgam alloy powder contains (Ag-Cu) eutectic alloy should be stored in cool-dry place.
9. Due to difference in composition of the parent alloy and solder alloy, concentration cell corrosion may develop.
10. The cored structure has lower tarnish and corrosion resistance than homogenized one.

1. Rate of corrosion depends on relative position of metals in electromotive force sense .
2. Proper polishing of dental metallic restoration is a must.
3. Ag/Pd ratio should be adjusted in case of cast gold alloys.

14. Tarnish layer may be protective and prevent further corrosion.

15. Eutectic alloys have low resistance to tarnish and corrosion.

16. Corrosion tendency of metals and/or alloys increases when oxygen tension decreases.

17. A highly stressed metallic structure is prone to corrosion than a non stressed one.

18. Uses of eutectic alloys in patient's mouth should be limited.

19. In cast structure, stress cell corrosion may develop.

20. Localized corrosion is generally far more dangerous than uniform corrosion.

21. Solder joints may corrode in patient’s mouth.

22. All dental metallic alloys should have high tarnish and corrosion resistance.

23. Oral cavity is very conductive to the formation of corrosion products.

***Give an account on :***

The different types of corrosion that may occur in the dental amalgam inside and outside the patient's mouth and how to overcome?

***Complete the following:***

1. Rate of corrosion in patient's mouth depends on:

a…………………………………………….

b…………………………………………….

c…………………………………………….

d……………………………………………..

e……………………………………………..

1. Stress cell corrosion may occur due to the presence of …………………… or …………………………
2. Tarnish is …………………………………………………………….

While corrosion is ……………………………………………………

1. The passivity is …………………………………………………………

It's essential for………………………………………………………….

1. In the oral cavity, presence of different alloys causes ………… corrosion. However, presence of different electrolyte composition causes ……………. corrosion.
2. The elements …………… or …………… should be added to base metal alloys for protecting against ……….. they are responsible for ………………
3. Types of corrosion are…………………………………………………….