

## Unit VI Corrosion Science

1. Dry corrosion is also called as\_\_\_\_\_

- a) Chemical corrosion
- b) Electrochemical corrosion
- c) Wet corrosion
- d) Oxidation corrosion

Answer: a

Explanation: Dry corrosion is also called as the chemical corrosion. The corrosion is divided into two types. They are dry corrosion and wet corrosion.

2. Anhydrous inorganic liquid metal surface in absence of moisture undergoes

- a) Wet corrosion
- b) Dry corrosion
- c) Galvanic corrosion
- d) Pitting corrosion

Answer: b

Explanation: Anhydrous inorganic liquid metal surface in absence of moisture undergoes the dry corrosion. Atmospheric gases also undergo the dry corrosion.

3. The rusting iron is the

- a) Oxidation corrosion
- b) Liquid metal corrosion
- c) Wet corrosion
- d) Corrosion by other gases

Answer: a

Explanation: The rusting of iron comes under the oxidation corrosion. Direct action oxygen at high or low temperatures will be on metals.

4. Chemical action of flowing liquid metal at high temperatures is

- a) Liquid metal corrosion
- b) Corrosion by other gases
- c) Oxidation corrosion
- d) Wet corrosion

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Answer:

a

Explanation: Chemical action of flowing liquid metal at high temperatures is called liquid metal corrosion.

5. Corrosion between the dissimilar metals is called as\_\_\_\_\_

- a) Galvanic corrosion
- b) Dry corrosion
- c) Oxidation corrosion
- d) Concentration cell

corrosion Answer: a

Explanation: Corrosion between the dissimilar metals is called as the galvanic corrosion. Dry corrosion also called as the chemical corrosion.

6. Wet corrosion is also called as \_\_\_\_\_

- a) Chemical cell
- b) Electro chemical cell
- c) Oxidation reaction
- d) Liquid metal corrosion

Answer: b

Explanation: Wet corrosion is also called as the electro chemical corrosion. Corrosion due to the conducting liquid in contact with cathodic and anodic areas is called as wet corrosion.

7. Corrosion due to the corrosiveness of the soil is called as \_\_\_\_\_

- a) Soil corrosion
- b) Oxidation corrosion
- c) Galvanic corrosion
- d) Concentration cell corrosion

Answer: a

Explanation: Corrosion due to the corrosiveness of the soil is called as the soil corrosion. Direct action of the oxygen on metal causes the oxidation corrosion.

8. Corrosion due to the formation of cavities around the metal is called as the

- a) Pitting corrosion
- b) Soil corrosion
- c) Water line corrosion
- d) Galvanic corrosion

Answer: a

Explanation: Corrosion due to the formation of cavities around the metal is called as the pitting corrosion. Corrosion between the dissimilar metals is called galvanic corrosion.

9. Corrosion due to the flow of the \_\_\_\_\_ between the cathodic and anodic areas is called as the electro chemical corrosion by evolution of hydrogen and absorption of oxygen.

- a) Electron current
- b) Proton current
- c) Ion current
- d) Neutron current

Answer: a

Explanation: Corrosion due to the flow of the electron current between the cathodic and anodic areas is called as the electro chemical corrosion by evolution of hydrogen and absorption of oxygen.

10. Corrosion due to difference in water level is

- a) Soil corrosion
- b) Oxidation corrosion
- c) Pitting corrosion
- d) Water line corrosion

Answer: d

Explanation: Corrosion due to the difference in water level is water line corrosion. Corrosion due to formation of varying concentrations of the aeration.

11. Which of the following comes under the wet corrosion?

- a) Concentration cell corrosion
- b) Oxidation corrosion
- c) Liquid metal corrosion
- d) Corrosion by other gases

Explanation: Oxidation corrosion, liquid metal corrosion and corrosion by other gases comes under the dry corrosion and concentration cell corrosion comes under the wet corrosion.

12. Corrosion is uniform in\_\_\_\_\_

- a) Dry corrosion
- b) Wet corrosion
- c) Pitting corrosion
- d) Water line corrosion

Answer: a

Explanation: In dry corrosion, the corrosion is uniform and in the wet corrosion, the corrosion is not uniform. Pitting and water line corrosion comes under the wet corrosion.

13. Corrosion along the grain boundaries is called as\_\_\_\_\_

- a) Stress corrosion
- b) Inter granular corrosion
- c) Water line corrosion
- d) Pitting corrosion

Answer: b

Explanation: Corrosion along the grain boundaries is called as the inter granular corrosion and stress corrosion is due to the static tensile strength.

14. Dry corrosion takes place in

- a) Homogeneous process
- b) Heterogeneous process
- c) Neither homogeneous nor heterogeneous
- d) Both homogeneous and heterogeneous

Answer: d

Explanation: Dry corrosion takes place in the both homogeneous and heterogeneous processes. The wet corrosion takes place in only heterogeneous process.

15. In wet corrosion\_\_\_\_\_are formed at the cathodic areas.

- a) Organic compounds
- b) Metallic ions
- c) Non-metallic ions
- d) Inorganic compounds

Answer: c

Explanation: In wet corrosion, non-metallic ions are formed at the cathodic areas. Cathodes are negatively charged electrodes and attract positive charges or non-metallic ions.

16. Which type of reaction occurs in anodic areas?

- a) Oxidation
- b) Reduction
- c) Displacement

d) A

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r: a

Explanation: Oxidation occurs in anodic areas. Oxidation means the addition of oxygen or removal of hydrogen or loss of electrons.

17. Rusting of iron in neutral aqueous solution of electrolyte occurs in the presence of oxygen with the evolution of \_\_\_\_\_

- a) Nitrogen
- b) Chloride
- c) Sulfide
- d) Hydrogen

Answer: d

Explanation: Rusting of iron in neutral aqueous solution of electrolyte occurs in the presence of oxygen with the evolution of hydrogen. Only hydrogen gas is evolved in this process.

18. Where does corrosion occurs in the rusting of iron?

- a) At cathode
- b) At anode
- c) In electrolytic solution
- d) Outside the solution

Answer: b

Explanation: Corrosion occurs at anode, but rust is deposited near cathode.

19. Which of the following cathodic reaction does not occur due to release of electrons at the anode?

- a) Oxygen absorption
- b) Hydrogen evolution
- c) Electrodialysis
- d) Electr

opating

Answer:

c

Explanation: Oxygen absorption, hydrogen evolution and electroplating occur due to the release of electrons at the anode.

20. Select the incorrect statement about the wet corrosion from the following option.

- a) It involves the setting up of large number of galvanic cells.
- b) It is explained by absorption mechanism.
- c) It occurs only on heterogeneous metal surface.
- d) It is a fast

process

Answer: b.

Explanation: Wet corrosion is explained by the mechanism of electrochemical reaction. All the other options are correct.

21. Which of the following factor does not contribute to the rusting of iron?

- a) Presence of acids and electrolytes
- b) Contact with less reactive metal
- c) Presence of water and oxygen
- d) Contact with more reactive metal

Answer: d

Explanation: Contact with the more reactive metal does not contribute to the rusting of iron whereas all the other given factors contribute to the rusting of iron.

22. \_\_\_\_\_ corrosion occurs when a metallic surface is partially immersed in an electrolyte and partially exposed to air.

- a) Concentration cell
- b) Dry corrosion
- c) both a) and b)
- d) None of above

Answer:

a

Explanation: Concentration cell corrosion occurs when a metallic surface is partially immersed in an electrolyte and partially exposed to air. This is due to formation of differential aeration cell

23. Which of the following does not promote the differential aeration corrosion?

- a) Accumulation of dirt
- b) Partially covering metals
- c) Wire fence kind of structures
- d) Accumulation of oxygen

Answer: d

Explanation: Accumulation of dirt, partially covering metals and wire fence kind of structures are the factors which promote the differential aeration corrosion.

24. Poorly oxygenated part becomes cathode whereas well oxygenated part becomes anode in the \_\_\_\_\_ corrosion.

- a) Galvanic corrosion
- b) Differential aeration
- c) Dry corrosion
- d) None of above

Answer:

b

Explanation: Poorly oxygenated part becomes anode and undergoes oxidation whereas well oxygenated part becomes cathode in the differential aeration corrosion.

25. Which code is followed by the corrosion of metals?

- a) Burger's vector
- b) Pilling-Bedworth
- c) Frank-Read mechanism

d) Miller's theorem

Answer: b

Explanation: The Pilling-Bedworth ratio is the ratio of the volume of the basic cell of a metal oxide to the volume of the basic cell of an equivalent or standard metal. It is used to find out the likeliness of the metal to corrode or resist it.

26. Which type of reaction occurs in cathodic areas?

a) Oxidation

b) Reduction

c) Displacement

d) A

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r: b

Explanation: Reduction occurs in cathodic areas. Reduction means the addition of hydrogen or removal of oxygen or gain of electron.

27. Rusting of iron in neutral aqueous solution of electrolyte occurs in the presence of oxygen with the evolution of \_\_\_\_\_

a) Nitrogen

b) Chloride

c) Sulfide

d) H

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Ans

wer:

d

Explanation: Rusting of iron in neutral aqueous solution of electrolyte occurs in the presence of oxygen with the evolution of hydrogen. Only hydrogen gas is evolved in this process.

28. Where does corrosion occurs in the rusting of iron?

a) At cathode

b) At anode

c) In electrolytic solution

d) Outside the solution

Answer: b

Explanation: Corrosion occurs at anode, but rust is deposited near cathode.

29. Which of the following cathodic reaction does not occur due to release of electrons at the anode?

a) Oxygen absorption

b) Hydrogen evolution

c) Electrodialysis

d) Electr

opulating

Answer:

c

Explanation: Oxygen absorption, hydrogen evolution and electroplating occur due to the release of electrons at the anode.

30. Select the incorrect statement about the wet corrosion from the following option.

- a) It involves the setting up of large number of galvanic cells.
- b) It is explained by absorption mechanism.
- c) It occurs only on heterogeneous metal surface.
- d) It is a fast process

Answer: b

Explanation: Wet corrosion is explained by the mechanism of electrochemical reaction. All the other options are correct.

31. Which of the following factor does not contribute to the rusting of iron?

- a) Presence of acids and electrolytes
- b) Contact with less reactive metal
- c) Presence of water and oxygen
- d) Contact with more reactive metal

Answer: d

Explanation: Contact with the more reactive metal does not contribute to the rusting of iron whereas all the other given factors contribute to the rusting of iron

32. In wet corrosion \_\_\_\_\_ are formed at the cathodic areas.

- a) Organic compounds
- b) Metallic ions
- c) Non-metallic ions
- d) Inorganic compounds

Answer: c

Explanation: In wet corrosion, non-metallic ions are formed at the cathodic areas. Cathodes are negatively charged electrodes and attract positive charges or non-metallic ions.

33. Which of the following does not promote the differential aeration corrosion?

- a) Accumulation of dirt
- b) Partially covering metals
- c) Wire fence kind of structures
- d) Accumulation of oxygen

Answer: d

Explanation: Accumulation of dirt, partially covering metals and wire fence kind of structures are the factors which promote the differential aeration corrosion.

34. Poorly oxygenated part becomes \_\_\_\_\_ whereas well oxygenated part becomes \_\_\_\_\_ in the differential aeration corrosion.

- a) anode, cathode
- b) cathode, anode
- c) anode, anode
- d) cathode, cathode

Answer: a

Explanation: Poorly oxygenated part becomes anode and undergoes oxidation whereas well oxygenated part becomes cathode in the differential aeration corrosion.

35. Which of the following factor influences the rate and extent of corrosion?

- a) Nature of metal only
- b) Nature of the environment only
- c) Both nature of metal and environment
- d) Nature of reaction

Answer: c

Explanation: Both nature of metal and environment influence the rate and extent of corrosion as corrosion is a natural process, which converts a refined metal to a more stable form, such as its oxide, hydroxide, or sulfide.

36. Which of the following is not associated with the nature of metal?

- a) Nature of oxide film
- b) Nature of electrolyte
- c) Purity
- d) Physical state

Answer

: b

Explanation: Nature of metal includes its purity, physical state, nature of oxide film, position in galvanic series, etc and hence it is not associated with the nature of electrolyte.

37. Which of the following oxide film is protective?

- a) Porous
- b) Nonporous
- c) Volatile
- d) None of above

Answer:

b

Explanation: Nonporous oxide film does not contains pores or holes and hence forms protective layer

38. Which of the following is not associated with the nature of the environment?

- a) Humidity
- b) Temperature
- c) Effect of pH
- d) Volatility of corrosion products

Answer: d

Explanation: Nature of the environment includes temperature, humidity, effect of pH, nature of electrolyte, etc. and hence volatility of corrosion product is not associated with it.

39. Lesser is the purity of the percentage of metal, \_\_\_\_\_ is the rate of corrosion.

- a) faster
- b) slower
- c) moderate
- d) s



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Explanation: Lesser is the purity of the percentage of metal, faster is the rate of corrosion. Pure metals does not corrode easily whereas impure metals corrode easily.

40. Rate of corrosion of anodic region is directly proportional to the \_\_\_\_\_

- a) Cathodic area
  - b) Anodic area
  - c) Product of anodic area and cathodic area
  - d) Sum of anodic area and cathodic area
- Answer: a

Explanation: Rate of corrosion of the anodic region is directly proportional to the cathodic area. Greater will be the cathodic area, faster will be the corrosion at an anode. (Reduction occurs at cathode...Reduction means gain of electron so greater cathodic area will demand more electrons and rate of corrosion is fast.)

41. Corrosion of zinc can be minimized by increasing the pH to

- a) 9
  - b) 10
  - c) 11
  - d) 1
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Explanation: Corrosion of zinc can be minimized by increasing the pH to 11. pH 11 means it will be basic in nature and hence will be less prone to corrosion.

42. Which of the following medium is most corrosive?

- a) Acidic
- b) Alkaline
- c) Neutral
- d) Both acidic and basic

Answer: a

Explanation: Acidic medium is more corrosive than alkaline and neutral media. In acidic medium, metals are more reactive and more prone to corrosion.

43. Non Protective oxide film is

- a) Porous
  - b) Non porous
  - c) Volatile
  - d) U
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Explanation: Porous oxide film contains pores or holes and hence oxygen can penetrate through this film.

44. Excessive corrosion of metal takes place if corrosion product is

- a) Volatile
- b) Non-volatile
- c) Both volatile as well as non-volatile
- d) Initially volatile and then non-volatile

Answer: a

Explanation: Excessive corrosion of metal takes place if corrosion product is volatile. When the corrosion product is volatile it easily escapes with gases and hence allowing more metal to corrode.

45. The specific volume ratios of W, Cr and Ni are 3.6, 2.0 and 1.6 respectively. Which of them will have the least rate of corrosion?

- a) Ni
- b) Cr
- c) W
- d) All will have the same rate of corrosion

Answer: c

Explanation: W will have the least rate of corrosion, even at higher temperatures because the specific volume ratio is inversely proportional to the rate of corrosion.

46. Which of the following statement is incorrect about the anodic coating?

- a) Protects the metal from corrosion sacrificially
- b) Base metal is not corroded
- c) Example- coating of tin on iron
- d) No negative consequence

Answer: c

Explanation: Example- coating of zinc on iron. All the other options are correct.

47. Electrochemical protection is

- a) Anodic protection
- b) Sacrificial Anodic protection
- c) Impressed current cathodic protection
- d) Cathodic protection

Answer: d

Explanation: Electrochemical protection is cathodic protection(CP). It is a technique used to control the corrosion of a metal surface by making it the cathode of an electrochemical cell.

48. Which of the following metal is not used as a sacrificial anode?

- a) Zinc
- b) Copper
- c) Magnesium

d) Alu  
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Answ  
er: b

Explanation: Zinc, aluminum, magnesium are used as a sacrificial anode. Copper is not used as a sacrificial anode.

49. The protective coatings are used to

- a) Corrode the metal
  - b) Prevent from corrosion
  - c) Increase the corrosion
  - d) Slightly increase the corrosion
- Answer: b

Explanation: The protective coatings are used to prevent the corrosion of the metal. The protective layers are thin layer on the surface of the metal.

50. The \_\_\_\_\_ resistance is given by the protective coatings.

- a) oxidation
  - b) Reductn
  - c) both a) and b)
  - d) None
- of above

Answer:

a

Explanation: The protective layer is used to provide the oxidation resistance to the metal and to give thermal insulating properties of the metal.

51. The cleaning methods before applying the protective coating are of \_\_\_\_\_ types.

- a) 3
- b) 45
- c) 6

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er:

d

Explanation: The cleaning methods before applying the protective coating are of 6 types. They are: solvent cleaning, alkali cleaning, mechanical cleaning, flame cleaning, sand blasting and pickling and etching.

52. In anodic coatings, the coating metals possess \_\_\_\_\_ reduction potential than base metal.

- a) Higher
- b) Lower
- c) 0
- d) Cannot be said

Answer:  
b

Explanation: In anodic coating, the coating metals possess the lower reduction potential than

base metal. The coating metals possess the higher reduction potential than base metal.

53. Tinning is the example of

- a) Anodic coatings
  - b) Cathodic coatings
  - c) Neither anode nor cathode
  - d) Both anode and cathode
- Answer:

b

Explanation: Tinning is an example of the cathodic coatings. The galvanization comes under the anodic coatings.

54. The process of coating iron or steel sheet with a thin coat of zinc to prevent iron from rusting is called

- a) Tinning
- b) Galvanization
- c) Metal cladding
- d) Electroplating

Answer:

b

Explanation: The process of coating iron or steel sheet with a thin coat of zinc to prevent iron from rusting is called galvanization. The process of depositing the coating metal on the surface of base metal by electrolysis is called electroplating.

55. Which of the following coatings has a glass composition?

- a) Paint
- b) Galvanized
- c) Enamel
- d) Anodized

Ans

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: c

Explanation: Enamel (vitreous) is a protective coating composed of glass containing a metal substrate. Paint is composed of organic material, whereas galvanized coating has anodic metal, both of which contain metal substrate. The anodized coating has an Al composition with an aluminum substrate.

56. Which of the following is not a type of protective coating?

- a) Metallic
- b) Non-metallic
- c) Organic
- d) Inorganic

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Ans

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: b

Explanation: A protective coating is generally defined as a layer of an inert substance which is applied to a material to prevent the chemical and electrochemical attack. These are classified into metallic, organic, and inorganic coatings.

57. An example of an anodic coating is \_\_\_\_\_

- a) Zinc
  - b) Copper
  - c) Nickel
  - d) Chromium
- Answer:

a

Explanation: The anodic coating is a classification of a metallic coating of metals which are anodic to the base metal. Zinc, aluminum, and cadmium are examples of anodic coatings. Cathodic coatings include Cu, Ni, Ag, etc.

58. The method of immersing a material into a molten bath for coating is known as

- a) Electroplating
- b) Hot dipping
- c) Cladding
- d) Cementation

Answer

: b

Explanation: Hot dipping is a method of metallic coating in which the product to be coated is dipped into a molten bath of the coating metal. Water pipe fittings coated with by the method of hot dipping.

59. Which of these methods uses a filler wire at a high-temperature flame?

- a) Hot dipping
- b) Metal spraying
- c) Vapor plating
- d) Cementation

Answer

: b

Explanation: In metal spraying, the surface to be coated is sprayed with the coating metal from a filler wire or powder at a high-temperature flame using a spray gun. A few materials like Al, Cu, Pb, Sn, and Zn can be coated by a spraying method.

60. The veneering of metals for coating is known as

- a) Electroplating
- b) Vapor plating
- c) Cladding
- d) Cementation

Answer

: c

Explanation: Veneering of two or metals under a pressure is described as the cladding method

of metallic coatings. The metal which needs to be applied the protective coating on is kept between two layers of the coating metal. This is then rolled into the required thickness, producing a protective coating.

Alclad is the cladding method where \_\_\_\_ is coated with pure aluminum.

- a) Duralumin
- b) Molybdenum
- c) Tin
- d) Silver

Answer: a

Explanation: When two materials are veneered by pressure, it is defined as the cladding process. The cladding of duralumin with pure aluminum is called Alclad.

Which method uses the powdered form of a coating to form the protective layer?

- a) Electroplating
- b) Hot dipping
- c) Vapor plating
- d) Cementation

Answer

: d

Explanation: Cementation is the process of alloying powdered coating metal with the base metal below melting point temperatures. Carburizing and sherardizing are types of cementation processes. Al, Zn, Cr, and W are only a few metals used for cementation.

61. Phosphate coating and Chromate coating are classifications of \_\_\_\_ coatings.

- a) anodic
- b) cathodic
- c) chemical
- d) conversion

Answer

: c

Explanation:

Chemical or electrochemical conversion is a form of an inorganic coating. They are used to improve corrosion resistance and for decoration. Phosphate, chromate, anodized, and chemical oxide coating are the various classifications of inorganic coatings.

62. The mixture of oil and a pigment is known as

a) Varnish

- b) Paint
- c) Lacquer
- d) Enamel

Answer

: b

Explanation: Paint is a form of an organic coating which is applied to protect against corrosion and to beautify surfaces. Oil is the wet component, whereas pigment is the dry material which adds color. The oil oxidizes to form a protective layer of the dry pigment.

63. A varnish is a mixture of \_\_\_\_\_ and oil.

- a) Resin
- b) Pigment
- c) Turpentine
- d) S

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r: a

Explanation: A mixture of natural or thermosetting resin and drying oil is used to form varnishes. These coatings do not contain pigments. However, reduced viscosity is obtained by adding turpentine to the mixture.

A mixture of oil and pigment in water is known as \_\_\_\_\_

- a) Enamel
- b) Emulsion
- c) Shellac
- d) L

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b

Explanation: An emulsion is a suspension of particles of drying oil and pigment in water. It is an organic type of protective coating. Here, the water evaporates and the mixture of oil and pigment forms the required film. The emulsions are applied for decoration in household appliances.

64. Which organic coating is made from Lac dissolved in alcohol?

- a) Lacquer
- b) Shellac
- c) Emulsion
- d) E

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b

Explanation: Shellac is an organic protective coating which is made from the dissolved Lac in alcohol. It usually dries by evaporation of the solvent and leaves an organic finish. Lacquers contain nitrocellulose dissolved in the solvent.

65. Which common application do anodizing and galvanizing serve?

- a) Corrosion resistance
- b) Improved surface
- c) Zinc coating
- d) Increased strength

Answer: a

Explanation: Both anodizing and galvanizing processes are carried out to improve the corrosion resistance of materials. Additionally, anodizing improves the surface which helps in painting, whereas a layer of zinc is coating in the galvanizing process.

66. What is the main principle of electroplating?

- a) Hydrolysis
- b) Neutralization
- c) Esterification
- d) Saturation

Ans

wer:

a

Explanation: Electroplating is the process by which a metal gets deposited over the other in the presence of metal salt (in aqueous solution). In this process, the water molecule is given out as the end product. Hence the principle behind electroplating is hydrolysis.

67. The process of modifying a metal's properties is called \_\_\_\_\_

- a) Electrolysis
- b) Electro deposition
- c) Electro less plating
- d) Electroplating

Answer:

b

Explanation: Electroplating coats a thin layer of metal over the other metals but does not modify its properties. But electro deposition is the process by which the coating is permanent and the property of the coated metal changes.

71 Corrosion of metal is -----

- a) Oxidation of metal
- b) Destruction of metal
- c) Both a & b
- d) None of these

Ans: c

72 Dry corrosion is also called as -----

- a. Electrochemical Corrosion
- b. Atmospheric Corrosion
- c. Wet Corrosion
- d. Galvanic Corrosion

Ans : b



73 Rate of Corrosion depends on-----

- a. Temperature
  - b. Chemical affinity
  - c. Moisture
  - d. All
- of these

Ans: d

74 Corrosion occurs due to the attack of atmospheric gases is -----

- a. Wet Corrosion
- b. Electrochemical corrosion
- c. Dry Corrosion
- d. Concentration cell corrosion

Ans: c

75 The rusting of iron is the -----

- a. Reduction
- b. Oxidation
- c. Electrodeposition
- d. Electrolysis

Ans: b

76 Corrosion between the dissimilar metal is called as-----

- a. Galvanic Corrosion
- b. Concentration cell corrosion
- c. Immersed corrosion
- d. Wet corrosion

Ans: a

77 The oxide film formed by the metal Na is -----

- a. Porous film
  - b. Nonporous film
  - c. Unstable oxide film
  - d. Volatile
- oxide film

Ans: a

78 The oxide film formed by the metals like Au, Ag is -----

- a. Porous film
  - b. Nonporous film
  - c. Unstable oxide film
  - d. Volatile
- oxide film

Ans: c

79 Wet corrosion is also called as -----

- a. Direct Corrosion
  - b. Electrochemical corrosion
  - c. Atmospheric corrosion
  - d. None
- of these

Ans: b

80 The oxide film formed by the metal Mo is -----

- a. Porous film
- b. Nonporous film
- c. Unstable oxide film
- d. Volatile oxide film

Ans: d

81 Breaking of metal by the H<sub>2</sub> accumulation is-----

- a. Reduction
- b. Oxidation
- c. H<sub>2</sub> embrittlement
- d. Decarburisation

Ans – c

82 In stressed and unstressed parts of the same metal, stressed part acts as -----

- a. Anodic
- b. Cathodic
- c. Passive
- d. I

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83 Corrosion due to the formation of cavities around the metal is called as the -----

- a. Pitting corrosion
- b. Water line corrosion
- c. Galvanic corrosion
- d. Immersed corrosion

Ans- a

84 Corrosion due to the varying O<sub>2</sub> concentration is called as-----

- a. Pitting corrosion
- b. Differential aeration cell corrosion
- c. Concentration Cell corrosion
- d. Bo

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Ans-

d

85 Reaction at anode is known as -----

- a. Reduction
- b. Oxidation
- c. Displacement
- d. Oxygen

absorption

Ans- b

86 Reaction at Cathode is known as -----

- a. Reduction
  - b. Oxidation
  - c. Displacement
  - d. Oxygen absorption
- Ans-a

87 H<sub>2</sub> liberation/evolution takes place in ----- medium.

- a. Alkaline
  - b. Neutral
  - c. Basic
  - d. All of these
- Ans-d

88 The higher placed metals in galvanic/electrochemical series are -----.

- a. Cathodic
  - b. Anodic
  - c. Active
  - d. Both b & c
- Ans-d

89 The lower placed metals in galvanic/electrochemical series are -----.

- a. Inactive
  - b. Cathodic
  - c. Passive
  - d. All of these
- Ans-d

90 If the metal or alloy is of smaller (grain size), then the rate of corrosion is -----

- a. Increases
  - b. Decreases
  - c. Remains constant
  - d. None of these
- Ans-a

91 Which of the following is the protective oxide film?

- a. Porous
- b. Nonporous
- c. Unstable
- d. All of these

Ans- b

92 Which of the following is/are destructive oxide film/s?

- a. Porous
- b. Unstable
- c. Nonporous
- d. Both a & b

Ans- d

93 Which of the following ions are more corrosive?

- a.  $\text{Cl}^-$ ,  $\text{NO}_3^-$
- b.  $\text{PO}_4^{3-}$
- c.  $\text{SiO}_4^{4-}$
- d.  $\text{O}^{2-}$

Ans- a

94 Rate of corrosion increases by increase in -----

- a. Temperature
- b. Moisture
- c. Conductivity of corroding medium
- d. All of these

Ans- d

95 In cathodic protection method, the metal to be protected is forced to behave as -----

- a. Cathode
- b. Anode
- c. Sacrificial anode
- d. Oxidant

Ans- a

96 The metals which have wide range of passivity voltage range can be protected by-----

- a. Cathodic protection
- b. Anodic protection
- c. Sacrificial anodic method
- d. Metallic coating

Ans- b

97 If the coating metal is higher placed in galvanic series than the base metal, then the coating is -----

- a. Cathodic coating
- b. Anodic coating
- c. Hot dipping
- d. Electroless coating

Ans- a

Ans- b

98 The process of galvanizing is -----

- a. Coating of Zn on iron
- b. Coating of Sn on iron
- c. Hot dipping
- d. Bo

th a

& c

Ans-

d

99 Which of the following process is applicable to store the edible material?

- a. Galvanizing
- b. Tinning
- c. Electroplating
- d. Metallic

coating

Ans- b

100 The formation of strong layer of alloy of coating metal and base metal, on the surface of the metal is called as-----

- a. Hot dipping
- b. Metal cladding
- c. Electroplating
- d. Ceme

ntation

Ans – d

101 Metal cladding is the process in which-----

- a. Thin sheet of the coating metal is bonded to the base metal.
- b. Strong alloy layer of coating metal and base metal is formed.
- c. Metallic coating is formed.
- d. Metal is dipped in hot molten liquid of other metal. Ans-a

102 Addition of corrosion inhibitors to the aqueous corrosive environment, -----

- a. Increases the rate of reaction.
- b. Decreases the rate of reaction.
- c. Does not affect the rate of reaction.
- d. First increases and then decreases the rate of reaction. Ans- b

103 The metals like Cu, Al forms -----oxide film.

- a. Porous
- b. Nonporous
- c. Unstable
- d. V

ola

tile

An

s-

b

104 The metals like Fe, Mg, Na & K forms ----- oxide film.

- a. Porous
- b. Nonporous
- c. Unstable
- d. V  
ola  
tile  
An  
s-  
a

105 Which of the following comes under the wet corrosion?

- a. Concentration cell corrosion
- b. Galvanic corrosion
- c. Corrosion by the atmospheric gasses
- d. Bo  
th a  
& b  
Ans-  
d

106 Poorly oxygenated part becomes cathode whereas well oxygenated part becomes anode in----  
-----Corrosion.

- a. Galvanic
- b. Differential aeration
- c. Dry
- d. P  
itt  
in  
g  
A  
n  
s-  
b

107 Which ratio is followed by the corrosion of metal?

- a. Burger's vector
- b. Frank-Read mechanism
- c. Pilling- Bedworth
- d. Miller's  
theorem  
Ans – c

108 Which of the following is not associated with the nature of metal?

- a. Nature of oxide film
- b. Nature of electrolyte
- c. Purity
- d. Physi  
cal state  
Ans-b

109 Rate of corrosion is directly proportional to the -----

- a. Cathodic area
- b. Anodic area
- c. Product of anodic and cathodic area
- d. Sum of anodic and

cathodic area Ans-a

110 Which of the following medium is most corrosive?

- a. Acidic
- b. Basic
- c. Neutral
- d. Both acidic and basic

Ans- a

111 Which of the following metal is not used as a sacrificial anode?

- a. Zinc
- b. Copper
- c. Magnesium
- d. Aluminum

Ans- b

112 The process of coating iron or steel sheet with a thin coat of tin to prevent iron from rusting is called as -----

- a. Tinning
- b. Galvanizing
- c. Metal cladding
- d. Electroplating

Ans- a

113 The method of immersing a material into a molten bath for coating is known as -----

- a. Electroplating
- b. Hot dipping
- c. Cladding
- d. Cementation

Ans- b

114 Which method uses the powdered form of a coating to form the protective layer?

- a. Electroplating
- b. Hot dipping
- c. Metal cladding
- d. Cementation

Ans- d

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