

કુલ સમય:— : ૬૦ મીનીટ

કુલ પ્રશ્નો : ૫૦

વિદ્યાર્થીએ ટીક કરવાના પ્રશ્નો : ૩૫

નોંધ : વિદ્યાર્થીએ માત્ર ૩૫ પ્રશ્નો જ ટીક કરવાના રહેશે. જો વધારે ટીક કરેલ હશે તો પ્રથમ ૩૫ પ્રશ્નો જ ગણતરીમાં લેવામાં આવશે.

- (1) Corrosion of metals involves
(a) Physical reactions (b) Chemical reactions (c) Both (d) None
- (2) The following factors play vital role in corrosion process.
(a) Temperature (b) Solute concentration (c) Both (d) None
- (3) Following equation is related to corrosion rate
(a) Nernst equation (b) Faraday's equation (c) Either (d) Neither
- (4) Passivity is due to
(a) Tighter EMF (b) Lower EMF (c) Oxide film (d) All
- (5) Difficult to monitor and very dangerous form of corrosion
(a) Galvanic (b) Pitting (c) Crevice (d) Stress
- (6) This form of corrosion occurs due to concentration difference in a component
(a) Uniform galvanic (b) Inter granular (c) Stress
- (7) When Pt and Co are electrically connected, which one gets corroded
(a) Pt (b) Co (c) None (d) Can't decide
- (8) Which of the following can be used for cathodic protection
(a) Al (b) Cd (c) Cu (d) Either
- (9) Anhydrous inorganic liquid metal surface in absence of moisture undergoes_____
(a) Wet corrosion (b) Dry corrosion (c) Galvanic corrosion (d) Pitting corrosion
- (10) Chemical action of following liquid metal at high temperature is_____
(a) Liquid metal corrosion (b) corrosion by other gases (c) oxidation corrosion (d) wet corrosion
- (11) 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
- (12) Corrosion due to the flow of _____ between the cathodic and anodic areas is called as the electro chemical corrosion by evolution of hydrogen absorption of oxygen
(a) Electron current (b) Proton current (c) Ion current (d) Neutron current
- (13) Corrosion is uniform_____
(a) Dry corrosion (b) Wet corrosion (c) Pitting Corrosion (d) Water line corrosion
- (14) Dry corrosion is also called as_____
(a) Chemical corrosion (b) Electrochemical Corrosion (c) Wet corrosion (d) oxidation corrosion
- (15) Which of the following is an example of corrosion
(a) Rusting of iron (b) Tarnishing of silver (c) Liquefaction of ammonia (d) Rusting of iron and tarnishing of silver
- (16) Metals doesn't exist in nature in the form of_____
(a) Nitrates (b) Sulphates (c) Carbonates (d) Oxides
- (17) How many rust will be formed when 100kg of iron have completely rusted away
(a) 100kg (b) 190kg (c) 250kg (d) 320kg
- (18) Hydrogen overvoltage is _____
(a) +0.33v (b) -0.33v (c) -1.33v (d) +1.33v
- (19) Lower is ϕ_{H_2} , corrosion is,
(a) greater (b) lower (c) constant (d) none of above
- (20) Electrochemical corrosion takes place on
(a) anodic areas (b) cathodic areas (c) near cathid (d) near anode
- (21) Chemical formula of rust is
(a) Fe_2O_3 (b) FeO (c) $Fe_2O_3 \cdot xH_2O$ (d) Fe_2O_4
- (22) Which of the following metals could provide cathodic protection to Fe?
(a) Al & Cu (b) Al & Zn (c) Zn & Cu (d) Al & Ni
- (23) Process of corrosion enhanced by
(a) Air & moisture (b) metabolic impurities (c) electrolytes in water (d) gases like CO_2 & SO_2
- (24) Standard electrode potential of hydrogen is,
(a) 0.00v (b) 0.02v (c) 1.00v (d) 0.001v
- (25) Standard electrode potential of Fe^{+}/Fe is
(a) -0.44v (b) +0.44v (c) +1.44v (d) -1.44v
- (26) Which of the following metal does not resist the corrosion process?
(a) Ni (b) Cu (c) Fe (d) Pb
- (27) In differential aeration corrosion, poor oxygenated parts are,
(a) cathodic (b) anodic (c) corroded (d) none of above

- (28) Pitting corrosion is a _____ accelerated attack.
 (a) localized (b) non-localized (c) diverse (d) none of above
- (29) Caustic embrittlement, a type of stress corrosion contains deposition of corrosion products,
 (a) NaFeO_2 (b) Na_2FeO_2 (c) K_2FeO_2 (d) Fe_3O_4
- (30) In galvanic series, a metal high in series is more _____
 (a) cathodic (b) anodic (c) corroded (d) none of above
- (31) Relative humidity above which atmospheric corrosion rate of metal increased sharply is known as,
 (a) humidity rate (b) critical humidity (c) environmental humidity (d) atmospheric humidity
- (32) Coating of Zn, AL, and Cd on steal are _____, because their electrode potentials are lower.
 (a) anodic (b) cathodic (c) none of above (d) not affecting
- (33) Required potential for protecting metal/alloy can be obtained form its _____
 (a) potential curve (b) protecting curve (c) potential current curve (d) none of above
- (34) Reduction in over voltage of corroding metal/alloy accelerate the _____
 (a) corrosion (b) reactivity (c) inertness (d) reduction
- (35) Acidic media are more corrosive then _____ an neutral media
 (a) alkaline (b) less acidic (c) inert (d) non reactive
- (36) Evolution of hydrogen type corrosion occurs in _____ environment.
 (a) neutral (b) acidic (c) basic (d) alkaline
- (37) Anodic reaction involves dissolution of metal as corresponding metallic ions with liberation of _____
 (a) free electron (b) pair of electron (c) ions (d) current in electrolytic solution
- (38) Corrosion is a process reverses of _____ of metal
 (a) extraction (b) destruction (c) rusting (d) galvanizing
- (39) Conversion of Fe to Fe^{+2} is
 (a) corrosion (b) reduction (c) oxidation (d) none of above
- (40) Corrosion accelerated by an oxygen concentration cell will occur
 (a) outside a crevice (b) every where (c) within a crevice (d) both inside are outside of a crevice
- (41) Select the factor that most tends to decrease atmospheric corrosion humidity
 (a) increased temperature (b) decreased polarization
 (c) increased relative humidity (d) increased electrolyte resistivity
- (42) Select the material usually coated to protect it from atmospheric corrosion
 (a) stainless steels (b) iron alloys (c) plastics (d) titanium
- (43) Stainless steels are normally classified based on their micro structure and usually are defined as iron based alloys having at least
 (a) 11% chromium (b) 11% lead (c) 11% cupper (d) 11% carbon
- (44) Which type of corrosion is most commonly found on aluminum and magnesium alloys,
 (a) corrosion fatigue (b) pitting corrosion (c) galvanic (d) corrosion
- (45) Materials that are commonly used as galvanic corrosion
 (a) Fe, Cu, Zn, (b) Ag, Fe, Ni (c) Al, Mg, Zn (d) Co, O, Na
- (46) Atmospheric corrosion is detected by
 (a) presence of SO_2 (b) presence of O_2 (c) humidity of air (d) frequency of rain fall
- (47) The scales decreased the efficiency of boiler and chances of explosions are also there.
 (a) true (b) false
- (48) Corrosion is the decay or disintegration of boiler body material either due to chemical reaction with environment.
 (a) true (b) false
- (49) Which of these materials is not added to iron for improvins its oxidation resistance.
 (a) silicon (b) aluminum (c) nickel (d) chromium
- (50) Which of these is not a way to prevent intergranular corrosion.
 (a) quenching (b) reduction of carbon level
 (c) addition of carbide forming elements (d) reduction of alloying elements