

Sample Questions ESE ATKT Sep 2020

Applied Chemistry II

CBCGS

1. Corrosion of metals in	nvolves (1M)					
(a) Physical reactions	(b) Chemical reaction	ns (c) electric reactions	(d) None			
2. Which of the followin	g factors play vital role	in corrosion process (1M)				
(a) Temperature		(b) Both Temp and Solute concentration				
c) Solute concentration	on	(d) Galvanising				
3. Passivity is due to (11	M)					
(a) Higher EMF	(b) Lower EMF	(c) Oxide film	(d) Metal film			
4. Passivity is not reasor	n for inertness of the fol	lowing (1M)				
(a) Au	b) Al	(c) Ti	(d) Ni			
5. When Pt and Co are electrically connected, which one gets corroded (2M)						
(a) Pt	(b) Co	(c) None	(d) Can't decide			
6. Which of the followin	g can be used for catho	dic protection: (1M)				
(a) Al	(b) Cd	(c) Cu	(d) Either			
7) The sign of Δ G prediction value is positive, the for	cts whether the formation of the products	on of the products in a reaction in a reaction is (2M)	on is favoured. If the			
a) Favoured		b) Favoured only at high ten	nperature			
c) Not Favoured		d) Favoured only at low terr	perature			
8) Cracking is the proces	ss of – (1M)					
a) converting high molecular weight hydrocarbon to low molecular weight hydrocarbon						
b) converting low molecular weight hydrocarbon to high molecular weight hydrocarbon						
c) Converting fraction in to gaseous state						
d) none of the above						
9) Diesel is used as - (1M	A)					
a) an illuminant	b) lubricating purpose	e c) a fuel	d) ointment			
10) Liquid phase therma	al cracking is carried ou	t at – (1M)				

			RTMENT Choice Based (OF ENGINEERI Credit Grading System v Under TCET	TCET NG SCIE with Holistic S -Autonomy Si	NCES ANI Student Develop cheme - 2019) HUM/	ANITIES CGS-H2019	(ES&H) (ICCE) Etd. in 2001
	a) 420) – 550 C & 15	5-100 kg/	/square cm		b) 425	-540 °C	C & 1.5 k	kg/square cm
	c) 600) to 650 °C & 1	15 - 20 kg	/square cm		d) 550	to 570	∘C & 1	5-20 kg/square cm
11)	Biodi	esel is formed	l by – (11	(Iv					
	a) tran b) trar	sesterification	n of vege n of vege	etable & anima etable & anim	al oils al oils o	c) saponi 1) hydrog	fication enatio	n of veg n of veg	etable & animal oils getable & animal oils
12)	Solde	rs are the allo	y of - (1	M)					
	a) Pb,	Sn	b) Ci	u,Mg	c) A	u and Ag		d)	neither of these
13.	Sandv	vich panels a	re examp	oles of - (1M)					
	a) str b) pa	uctural comp rticle reinforc	osites ed comp	oosites		c) cont d) dis	inuous -contin	s aligne uous al	d composites igned composites
14)	Comp	oosite materia	l is a	- phase mater	ial- (1M)			
	a) one	2	c) thre	ee		b) two)		d) four
15)	The s	tarting materi	ial for sy	nthesis of ind	igo by g	reener ro	ute is -	- (1M)	
	a)	benzene	b)	styrene	c)	aniline) (d)	L – Tryptophan
16)	An ex	ample of a sa	fe solver	nt is - (1M)					
	a)	acetone	b)	benzene	c)	ether		d)	water
17)	DDT	is used as - (1M)						
	a)	herbicide	b)	pesticide	c)	germic	cide	d)	all of the above
18) Maleic anhydride can be prepared by the oxidation of - (1M)									
	a)	benzene	b)	butane	c)	butene	2	d)	all of the above
19) Function of a matrix phase is - (1M)									
	a) to bind the reinforcing particle strongly b) to prevent propagation of cracks								
	c)	to act as a m load to disp	edium fo ersed ph	or distributior ase	n of app	lied	d)	all of	the above
20)	The o	bjective of gre	en chem	nistry is –(1M)					
21)	a) b) Perce	to minimize to design ha ntage yield is	environ rmless c - (1M)	mental polluti hemical proce	ion esses		c) d)	to use all of	e safer chemicals the above
	a)	(actual yield	l / theore	etical yield) x	100		c)	Mol v	vt.
	b)	(theoretical	yield / a	actual yield) x	100		d)	Atom	ic Weight



22) Volatile oxidation corrosion product of a metal is, (2M)						
a) Fe ₂ O ₃	b) MoO ₃	c) Fe ₃ O ₄	d) FeO			
23) Which of the following is an alloy of iron? (1M)						
a) Vitallium	b) Brass	c) Invar	d) Solder			
24) Which of the following alloy is used for making castings of firearm chamber? (1M)						
a) Brass	b) Wood's metal	c) Brass	d) Steel			
25) Duralumin is an	alloy of (1M)					
a) Aluminium and	d Copper	b) Aluminium and iron				
c) Aluminium and	d Carbon	d) Aluminium and mercury				
26) Magnalumin is an alloy of (1M)						
a) Manganese and	l Aluminium	b) Copper and magnesium				
c) Copper, manga	nese and nickel	d) Manganese, alum	d) Manganese, aluminum and iron			
27) Composite materials are classified on the basis of (1M)						
a) Type of Matrix phase b) Size and Shape of Reinforcement						
c) Concentrate material d) None of the above						
28) From the following, which is not example of Laminar Composites? (1M)						
a) Bimetallic	b) Wood	c) Coatings	d) Claddings			
29) Pitting Corrosion is takes place by which type of accelerated attack? (1M)						
a) Localised	b) Non localised	c) Diverse	d) None of the above			
30) Caustic embrittlement, a type of stress corrosion contains deposition of corrosion products (2M)						
a) Na ₂ FeO ₂	b) NaFeO ₂	c) K ₂ FeO ₂	d) Fe ₃ O ₄			
31) Gross calorific value of coal having following compositions: C = 80%, H = 7%, O =3%, S=3.5%, N =2.1% and ash =4.4% (2M)						
a) 8856.40 Kcal/k	g. b) 8826.30 Kcal/kg.	c) 7826.50 Kcal/kg.	d) 8526.30 Kcal/kg.			
32) % atom economy for the formation of Maleic anhydride in reaction (2M)						
1 mole of Butene + 3 mole of $O_2 \longrightarrow 1$ mole of Maleic anhydride + 3 mole of H ₂ O						
a) 67.7	b) 64.5	c) 63.2	d) 67.2			