Reg. No. :

Question Paper Code: 51004

B.E. / B.Tech. DEGREE EXAMINATION, DEC 2020

First Semester

Civil Engineering

01UCY104 - ENGINEERING CHEMISTRY

(Common Mechanical Engineering)

(Regulation 2013)

Duration: One hour

Maximum: 30 Marks

PART A - $(6 \times 1 = 6 \text{ Marks})$

(Answer any six of the following questions)

- 1. Which of the following may be used as initiator in addition polymerization?
- (a) Potassium di chromate (b) Potassium sulphate (c) Benzoyl peroxide (d) Sodium hydroxide 2. Polycarbonate is also called as _____ (b) Fluon (a) Perlon-U (c) HDPE (d) Lexan 3. Which of the following is a neutral refractory? (c) Magnesite (a) Fire clay (b) Bakelite (d) Graphite 4. The example of solid lubricant is (d) Castor oil (a) Grease (b) Vaseline (c) MoS_2 5. A steel screw in a brass marine hardware corrodes, due to (a) Galvanic corrosion (b) Differential aeration corrosion (c) Waterline corrosion (d) Dry corrosion

6. As the acidity increases, the rate of corrosion

	(a) No effect	(b) Increases	(c) Decrease	(d) Remaining th	ne same	
7.	Sorption means					
	(a) adsorption		(b) adsorpt	(b) adsorption & desorption		
	(c) adsorption & absorption		(d) absorpt	(d) absorption		
8.	Multilayer adsorption occurs in					
	(a) Physical adsorption		(b) Chemic	(b) Chemical adsorption		
	(c) Both		(d) Ion-exc	hange adsorption		
9. AAS technique is limited to only						
	(a) Non-metals	(b) Metals				
	(c) Halogen	(d) Gaseous e	elements			
10. Atomic structure of the crystal is founded by						
(a) XRD			(b) UV spectro	(b) UV spectroscopy		
(c) IR spectroscopy		(d) Flame photometry				
PART – B (3 x 8= 24 Marks)						
(Answer any three of the following questions)						
11.	Differentiate therr	Differentiate thermoplastic from thermosetting plastic with an example. (8				
12.	Discuss briefly on	Discuss briefly on any four important properties of refractory materials. (8)				
13.	Explain the envi	ronment based fa	ctors which influ	ence the rate of	corrosion. (8)	
14.	Stating the assu adsorption iso Mention its de	mptions based on otherm. Interpret tl emerits.	which it is den ne results at low	ived, derive the pressure and high	Langmuir n pressure. (8)	

15. Discuss with a neat diagram, the principle, instrumentation, working and applications of XRD. (8)