KUMARAGURU
college of technology
character is life

Register Number: …….

B.E DEGREE EXAMINATIONS: JUNE 2015

(Regulation 2013)

Second Semester

CIVIL ENGINEERING

U13CHT201: Chemistry For Civil Engineering

Time: Three Hours **Maximum Marks: 100**

Answer all the Questions:-

PART A (10 x 1 = 10 Marks)

1. Which one of the following agent is used as Antifoaming ?
   a) Sodiumphosphate b) Castor Oil
   c) Aluminiumsulphate d) Sodiumaluminate
2. ……is a Calgon reagent.
3. What type of corrosion occurs when nut and bolt are mad by two different metals ?
   a) Concentration b) Stress
   c) Galvanic d) Pitting
4. Scarificeial anode is ……..
5. Which one of the following reagent is used as a plasticizer is paint ?
   a) Triphenlyphosphate b) Dipentene
   c) Diatomiteclay d) Clay
6. …….Cement is used for joining marble pillars and blocks.
7. A particulate composite is
   a) wood b) Concrete
   c) Bone d) Laminate
8. Polyurethanes are obtained from …… and …… .
9. Which one of the following brick is used as heating elements in the form of rods and bars?
   a) Magesnesite b) Zirconia
   c) Carboruntum d) High-Alumina
10. ……..is used to raise the Pour-Point of Lubricant.

PART B (10 x 2 = 20 Marks)

(Not more than 40 words)

11. What is meant by Casutic embrittlement?
12. How is Phosphate Conditioning can prevent scale formation in boilers?
13. What happens when metals like gold, aluminium and iron are exposed to moist atmosphere?
14. What is Piting corrosion? How does it occurs?
15. Why is gypsum added to Cement?
16. What are the Constituents of fire retardant paints? Mention their functions.
17. Give the applications of fibre reinforced plastics.
18. Write the preparion of polycarbonate.
19. What are Garnets? Give their uses.
20. What is viscosity index of lubricating oil? How can it be imporved?

PART C (5 x 14 = 70 Marks)

(Not more than 400 words)

Q.No. 21 is Compulsory

21. i) Describe in detail ion exchange process for demineralisation of water. Explain the desalination process by reverse osmosios (8)

ii) (6)

22. a) i) Explain the mechanism of electrochemical corrosin of iron in acid and alkaline corrosive environment (8)

ii) What are the factors influencing rate of corrosin ? (6)

(OR)

b) i) Discuss the diferential aeration corrosion with suitable examples. (8)

ii) What is meant by cathodic prodtection? Explaint how copper ectroplating protects the base metals from corrosion. (8)

23. a) i) Describe the mechanism of setting and hardening of cement. Write the chemical reactions involved in it. (8)

ii) Write a note on high alumina cement (6)

(OR)

b) i) What are the various constituents of a paint. Explain their functions with examples. (8)

		ii)	Write a note on fire retardant and luminous paints.	(6)
24.	a)	i)	Define refractories. How are they classified ? Give examples to each type.	(8)
		ii)	How are artifical abrasives prepared?	(6)
			(OR)	
	b)	i)	Give the pepartion and uses of : 1) Polyamide 2) Thermocole	(8)
		ii)	Write a breif note on polymer blends and alloys	(6)
25.	a)		Discuss the various constituents, properties and applications of MMC and CMC.	(4)
			(OR)	
	b)	i)	Discuss he following properties of Lubricants. 1) Flash and fire points 2) Cloud and pour points	(8)
		ii)	Write a breif note on solid lubricants	(6)

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