DR. BABASAHEB AMBEDKAR TECHNOLOGICAL UNIVERSITY, LONERE

Mid Semester Examination – March 2019

Course: - : First Year B. Tech(Group- A Chem, Mech, Civil) **Sem: II**

Subject Name: Engineering Chemistry **Subject Code: BTBS 202**

Max Marks: 20 **Date:- 12/03/2019**

Duration:- 1 Hr.

Instructions to the students:

1. Do not write anything on question paper
2. Neat and labeled diagram must be drawn whenever necessary.
3. Use of non programmable calculator is allowed.
4. Figures to the right indicate full marks.
5. Assume suitable data if required
6. All questions are compulsory

		(Level/CO)	Marks
Q.	**Attempt the following Questions**		6
1.	**If degree of freedom for any system is zero, the system is said to be** a) Zero Varient b) Divarient c) Invarient d) Both a & c	/CO3	
2.	For the given system degree of freedom is, $NaCl_{Solid} \rightleftharpoons NaCl_{Solution} \rightleftharpoons H_2O_{Vapour}$ a) 1 b) 2 c) 3 d) 4	/CO3	
3.	**Phase diagram of sulphur system has…….triple point(s).** a) 4 b) 3 c) 2 d) 1	/CO3	
4.	**Exhausted zeolite can be regenerated by using** a) HCl b) NaOH c) NaCl d) All of these	/CO1	
5.	**Sodium Zeolite can be represented as** a) $Ca_2O.Si_2O_3.xNa_2O.yH_2O$ b) $Mg_2O.Al_2O_3.xSiO_2.yH_2O$ **b)** $Si_2O.Al_2O_3.xNa_2O.yH_2O$ d) $Na_2O.Al_2O_3.xSiO_2.yH_2O$	/CO1	
6.	**Hardness of water is usually expressed in equivalent with** a) $Ca(OH)_2$ b) $CaCl_2$ c) CaO d) $CaCO_3$	/CO1	
Q.2	**Solve Any Two of the following.**		3 X 2
A)	**What is condensed phase rule? When it is applied?**	/CO3	
(B)	**Ion exchange method is more advantageous than zeolite method, give your review.**	/CO1	
(C)	**Define the term Phase, Invariant system and temporary hardness**	/CO1, CO3	
Q. 3	**Solve Any One of the following.**		8
(A)	**How we determine hardness of water by EDTA method? What happen when hard water is used for industrial applications?**	/CO1	
(B)	**Draw neat labeled phase diagram for water system and explain areas, curves and triple points in it. What are the advantages of phase rule?**	/CO3	

***** End *****

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Mid Semester Examination – March 2019

Course: F.Y.B. Tech Sem: II

Subject Name: Engineering Graphics **Subject Code: ME104**

Max Marks: 20 **Date:-** **Duration:- 1 Hr.**

Instructions to the Students:

1. **Assume suitable data if necessary and state it clearly.**
2. **Figures to the right indicate full marks.**
3. **Retain all construction lines.**

		(Level/CO)	Marks
Q.1	**Solve *any two* out of the following:**		**5x2=10**
	1. Inscribe a regular heptagon inside a given circle of diameter 80 mm.	**CO1,2**	
	2. Super scribe a regular octagon about a given circle of 70 mm diameter..	**CO1,2**	
	3. Explain various types of lines with their illustrations, thickness and applications.	**CO1**	
Q.2	**Draw front view, top view and right hand side view of the object shown in figure 1 below:- (Use first angle method of projection)**	**CO4**	**10**

Figure 1