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**D.K.M.COLLEGE FOR WOMEN (AUTONOMOUS), VELLORE-1**  
**SEMESTER EXAMINATIONS**  
**NOVEMBER - 2016**  
**PHYSICAL CHEMISTRY**

12CCH5C

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**Time : 3 Hrs****Max.Marks : 75****SECTION-A (10 x 2 =20)****Answer ALL the questions.**

1. What is meant by phase rule?
2. Define Triple Point.
3. What are anisotropic crystals?
4. What is simple lattice?
5. Write the Arrhenius equation.
6. What is first order reaction? Give one example.
7. Give the merits of collision theory.
8. What are activated complexes?
9. Define chemical adsorption.
10. Give an example for phosphorescent substance.

**SECTION-B (5 x 5 =25)****Answer any FIVE of the following questions.**

11. Discuss about phenol - water system.
12. Draw and explain the phase diagram of Silver- Lead system.
13. Discuss about the seven primitive unit cells.
14. Discuss and draw the structure of NaCl and KCl.
15. Explain transition state theory.
16. List out the differences between order and molecularity.
17. Discuss acid base catalysis.
18. Distinguish between physical adsorption and chemical adsorption.

**SECTION-C (3 x 10 =30)****Answer ALL the questions.**

19. (a) Describe the congruent and incongruent melting point with one example.  
(Or)  
(b) Explain crystal defects.
20. (a) Compare the collision theory and ARRT.  
(Or)  
(b) Derive an expression for zero order and first order reactions.
21. (a) Explain the lock and key theory.  
(Or)  
(b) Explain adsorption isotherms.

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