

- ii) Crocin
- iii) Brufen

3. (a) Why do drugs cause side effects? How do antiseptics differ from disinfectants? Give one example of each. 2+3
- (b) How will you define antibiotic? Give four cardinal requirements of a substance to be called an antibiotic. 5
4. (a) Briefly discuss Fajan's rules. 5
- (b) Find the effective nuclear charge for 3d electron in Zn, Fe, 4s electron in Cu, Fe and valence electron in sulphur. 5
5. What are enantiomers and diastereomers? Give examples with R, S configurations. 5+5
6. (a) Write a short note on reaction intermediates. 5
- (b) Write the reaction mechanism of Rierner-Tiemann reaction. 5
7. Define crystal field theory. What are the factors that influence the magnitude of crystal field splitting? 4+6
8. Write short notes on 2x5=10
 - (i) Nucleophilic substitution reaction
 - (ii) Diels-Alder reaction

B.Tech Even Semester (CBCS) Exam. July 2021

Computer Science & Engineering / Agricultural Engineering / Electronics & Communication Engineering (2nd Semester)

Course No: ASH-201
(Engineering Chemistry)

Full Marks: 50
Pass Marks : 15/25

Time: 2 hours

1. Answer any five questions.
 2. Begin each answer in a new page.
 3. Answer parts of a question at a place.
 4. Assume reasonable data wherever required.
 5. The figures in the right margin indicate full marks for the question.
1. (a) Which of the following ion is most stable and least stable? $[\text{AgI}_2]^{66}$, $[\text{AgBr}_2]^-$, $[\text{AgCl}_2]^-$ and $[\text{AgF}_2]^-$ 2
- (b) Which of the following are hard acids? In^{3+} , Fe^{3+} , Fe^{2+} , Br^- , I^- , Ag^+ , K^+ , Ni^{2+} , H^- 3
- (c) Predict the molecular geometry for SnCl_2 , XeF_2 , PI_3 , H_2Te and NH_3 . 5
2. (a) Write the correct structure of the drug paracetamol. 1
- (b) Give the synthesis mechanism for the following: 3x3
 - i) Dispirin