

**B.Sc DEGREE EXAMINATION, EVEN SEMESTER 2021**  
**I Year I Semester**  
**Allied Chemistry - I**

**Max.marks :25**

Answer any **FIVE** questions ( $5 \times 5 = 25$ ) Marks

1. a) Classify the following as Strong or Weak acids: i) HF ii) HI iii) HCl iv) acetic acid v)  $\text{HNO}_3$   
vi) Formic acid. b) What is a buffer solution? Mention its significance (3+2)
2. a) Mention the composition of water gas and semi water gas. b) Mention the disadvantages of hard water. (3+2)
3. a) Explain the free radical substitution reaction of methane by  $\text{Cl}_2$   
b) what is nitrating mixture and predict the product on nitration of benzene
4. a) How is furan prepared from furfural b) mention any two methods of preparation of thiophene (2+3)
5. Explain the following terms i) Photosensitisation ii) quantum yield iii) Luminescence (2+1+2)
6. Explain the hybridisation in ethene? Mention the number of pi and sigma bonds in acetylene (3 +2)
7. What is NPK? Write the chemical formula of super phosphate of lime, Ammonium sulphate and urea (2+3)