Registration no: | | | | | | | | | | |

Total Number of Pages: 02

M.Sc.I
FCYE208

2nd Semester Back Examination– 2017-18
CHEMISTRY-II
BRANCH: M.Sc.I(AP)
Time: 3 Hours
Max marks: 70
Q code:C930

Question No.1 which is compulsory and any five from the rest
The figures in the right hand margin indicate marks.
Answer all parts of a question at a place.

Q1 **Answer the following questions.** **(2 x 10)**

a) Write the IUPAC name of isobutane, n-propyl alcohol.
b) Draw the structure of tert-butyl alcohol, Butan-2-ol.
c) Why benzene is aromatic?,
d) What is inductive effect? Write different types of it.
e) Between phenol and methanol, which is more acidic and why?
f) Draw the structure of different geometrical isomers of but-2-ene.
g) Arrange the following in the increasing order of their stability.
$CH_3\ CH_2^+$, $(CH_3)_2\ CH^+$ and $(CH_3)_3\ C^+$
h) What do you mean by order of a reaction?
i) Give an example of a homogeneous catalytic reaction.
j) How concentration of a reactant affects the rate of a first order reaction?

Q2 **a)** What do you mean by aromatic, antiaromatic and nonaromatic compounds? **(5)**
b) Discuss the mechanism of markownikoff's addition with suitable example. **(5)**

Q3 **a)** Why formic acid is more acidic than acetic acid? **(4)**
b) What is resonance? Explain with the help of it, why aniline is a weak base? **(6)**

Q4 What is free radical? Discuss the formation, structure and stability of it. **(10)**

Q5 Why benzene shows electrophilic substitution reaction? Discuss the mechanism of the following aromatic substitution reaction. Halogenation, Friedel-Craft's alkylation. **(10)**

Q6 **a)** Derive a mathematical expression for the rate constant of a first order reaction. **(6)**
b) Find the half life period of a first order reaction, if 20% of the same reaction completes in 20minutes.(log2=0.3010) **(4)**

Q7 **a)** What is activation energy? What is its importance of it for progress of a reaction? **(4)**

b) What do you mean promoters? Give an example. **(2)**

c) Discuss collision theory of reaction rates. **(4)**

Q8 **Write notes on:**

a) Optical isomers **(3)**

b) Molecularity of a reaction. **(3)**

c) Stereo isomerism **(4)**