FE.   FY B. Tech   5/3/2020

Total No. of Questions – [3]   Total No. of Printed Pages: 2

G.R. No.

EC

MARCH ~~FEBRUARY~~ 2020 / INSEM (T1)
F. Y. B.TECH. (COMMON) (SEMESTER - II)
COURSE NAME: Engineering Chemistry
COURSE CODE: ES10184B
(PATTERN 2018)

Time: [1 Hour]   [Max. Marks: 20]

(*) Instructions to candidates:
1)   All questions are compulsory.
2)   Figures to the right indicate full marks.
3)   Use of scientific calculator is allowed.
4)   Use suitable data where ever required.

Q.1)   Attempt any **two**
a)   Compare zeolite and ion exchange treatment   [4]

b)   50 ml of an alkaline water sample requires 3.7 ml of N/50 HCl upto   [4]
phenolphthalein end point and further 4.8 ml for complete neutralization. Find
the type and amount of alkalinity

c)   Explain any 4 methods of removal of micro-organisms in purification of water   [4]
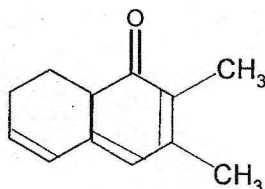for domestic use

Q.2)   Attempt any **two**
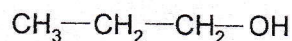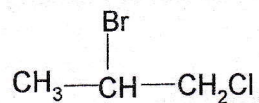a)   Calculate λ_{max} for the following compounds (Explain calculations):   [2+2]
(i)
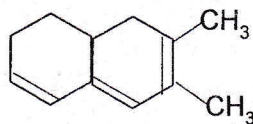
(ii)

b)   i) How can you distinguish between Ethanol and Acetone by IR   [2+2]
spectroscopy?
ii) Explain any 2 applications of IR spectroscopy

c)   Draw the low and high resolution spectra of the following   [2+2]

(i)

$CH_3—CH_2—CH_2—OH$

(ii)

$$CH_3-\underset{\underset{Br}{|}}{CH}-CH_2Cl$$

Q.3) Attempt any **one**

a) What is Pilling Bedworth ratio? Discuss oxidation corrosion in case of Mg, Cr, Mo with reactions and type of oxide film formed. **[4]**

b) Explain electroplating with figure, process, reactions , 2 applications **[4]**