**ST. JOSEPH’S COLLEGE (AUTONOMOUS), BANGALORE-27**

**Register No:**

**Date: 02-04-2019**

**B.A./B.Sc./B.Com.: IV SEMESTER**

**SEMESTER EXAMINATION-APRIL 2019**

**CHOE 4216: Industrial and Material Chemistry - A**

**Time: 1½ hours Max Marks: 35**

*This question paper contains 1 page and 3 parts*

**PART-A**

Answer any ***FIVE***of the following questions: **5 x 2 = 10**

1. Give any four examples of day-to-day materials that we use synthetic chemicals.
2. Define nanomaterials.
3. How are nanomaterials classified?
4. What is cracking in petrochemistry?
5. What are catalysts? What is the technical name of biological catalysis?
6. What is periodic table? What information does it contain?

**PART-B**

Answer any ***THREE*** of the following questions: **3 x 5 = 15**

1. What is chemistry? What does a chemist do in general?
2. Explain quantum confinement in nanoparticles by depicting the electron energy band structure of a) a metal and b) a semiconductor in bulk form and in nano form.
3. Describe the process of defining crude oil. List the major products obtained through refining.
4. Explain (do not simply list) any two application of nanomaterials.

**PART-C**

Answer the following question: **1 x 10 = 10**

1. Discuss in detail any ***ONE*** of the following.

How is chemistry important in the areas of (a) economic development (b) human health and (c) technological advancement in other fields?

***OR***

What are the *pros* and *cons* of establishing large scale chemistry-based industries? Include global and local issuesin your discussion.

***OR***

What kind of a new world that you would see when nanotechnology is fully matured?

---------------------

**CHOE4216\_A\_19**