

C.U.SHAH UNIVERSITY

Winter Examination-2018

Subject Name: Advanced Chemistry

Subject Code: 5SC03ADC1

Branch: M.Sc. (Chemistry)

Semester: 3

Date: 04/12/2018

Time: 02:30 To 05:30

Marks: 70

Instructions:

- (1) Use of Programmable calculator and any other electronic instrument is prohibited.
 - (2) Instructions written on main answer book are strictly to be obeyed.
 - (3) Draw neat diagrams and figures (if necessary) at right places.
 - (4) Assume suitable data if needed.
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SECTION – I

- Q-1 Attempt the Following questions (07)**
- a. Define Nanotechnology **01**
 - b. What is nanoscience? **01**
 - c. Write the role of TEM in nanotechnology. **01**
 - d. Draw the structure of methyl orange. **02**
 - e. Define Chromophore and Auxochromes **02**
- Q-2 Attempt all questions (14)**
- A Discuss the advanced applications of Nanoscience. **05**
 - B Discuss the applications of biosensor. **05**
 - C Discuss the types of phase transfer catalyst. **04**
- OR**
- Q-2 Attempt all questions (14)**
- A Discuss the classification and working system of Nanobiosensor **05**
 - B Write a note on Carbon Nanotube. **05**
 - C **Write a note on** sol-gel and electro deposition. **04**
- Q-3 Attempt all questions (14)**
- A What is dye? Discuss the classification of dyes. **08**
 - B Draw the complete synthesis of Diamonds black F and Malachite green. **06**
- OR**
- Q-3 Attempt all questions (14)**
- A Discuss the green applications of nanoparticles **08**
 - B Discuss the applications of dyes. **06**



SECTION – II

- Q-4** **Attempt the Following questions** **(07)**
- a. Define polymer supported catalysts. **01**
 - b. Write principle catalyst. **01**
 - c. Define catalyst. **01**
 - d. Define oxidation catalys. **02**
 - e. Draw the structure of Ibuprofen. **02**
- Q-5** **Attempt all questions** **(14)**
- A** Discuss the advantages and limitation of microwave chemistry. **05**
 - B** Discuss the Uses of computer in industry. **05**
 - C** Write a note on **04**
 - 1. Green synthesis of polycarbonates
 - 2. Paracetamol
- OR**
- Q-5** **Attempt all questions** **(14)**
- A** Discuss the applications of computational chemistry. **05**
 - B** Write a note on microwave chemistry. **05**
 - C** Write a note on Different electronic effects. **04**
- Q-6** **Attempt all questions** **(14)**
- A** Write synthesis of following **08**
 - 1. Citral
 - 2. Urethane
 - B** What is green chemistry? Discuss the all twelve principles of green chemistry. **06**
- OR**
- Q-6** **Attempt all Questions** **(14)**
- A** Write synthesis of following **08**
 - 1. Adipic acid
 - 2. Styrene
 - B** Write a note on Patents and intellectual property rights. **06**

