



THE AMERICAN COLLEGE, MADURAI

(An Autonomous Institution Affiliated to Madurai Kamaraj University)

Re-accredited (2nd Cycle) by NAAC with Grade "A", CGPA – 3.46 on a 4-point scale

Backlog Arrear Examination, March 2021

CHE 3614/CHS 3614

APPLIED CHEMISTRY

Max: 75marks

Time: 3hrs

Answer any FIVE questions:

(5×15 = 75)

1. a) Describe the role of Zeolites in softening of water.
b) Briefly discuss the process of softening of water by ion-exchange and desalination methods. (5+10)
2. a) Write down the preparation and properties and applications of phenol formaldehyde.
b) Discuss in detail the various types of rubber. Give the importance of vulcanisation of rubber. (6+9)
3. a) Mention the need and requirements of fertilizer.
b) Name the various nitrogenous fertilizers. Explain the preparation and uses of any two nitrogenous fertilizers. (5+10)
4. a) Describe the raw materials of porcelain and china and their requirements.
b) Distinguish insulating refractories and super refractories. (7+8)
5. a) Describe the chemical formula, characteristics and uses of different white pigments.
b) Mention the important requirement of toxic chemicals. How do you prepare RDX by Hale method?
c) What is meant by Pigment Volume Concentration? (9+4+2)
6. a) What is hardness of water? How do you estimate the hardness of water by EDTA method?
b) Describe the bio medical applications of polymers.
c) Give the ill effects of fertilizers. (6+6+3)
7. a) State any three factors which affect the nutrients of the soil.
b) Explain the preparation, properties and uses of silicon carbide.
c) Write the formula and explain the method of preparation of the following toxic chemicals
i) mustard gas ii) chloropicrin iii) nerve gas
(3+6+6)
