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Code No. 15289/AICTE

FACULTY OF ENGINEERING
B.E II-Semester (AICTE) (Main) Examination October, 2021

Subject: Engg. Chemistry / Chemistry

Time: 2 Hours

Max. Marks: 70

Note: i) First Question is compulsory and answer any three questions from the remaining six questions.

ii) Answers to each question must be written at one place only and in the same order as they occur in the question paper.

iii) Missing data, if any, may suitably be assumed.

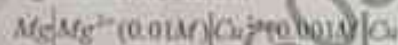
Answer any four questions from the following

(4 x 4 = 16 Marks)

- 1 (a) Distinguish between electrolytic and electrochemical cells.
(b) What do you mean by pitting corrosion?
(c) Explain break point chlorination.
(d) Define the term 'monomer'. Write its functionality with few example.
(e) Write the composition and uses of CNG.
(f) What is 'knocking'? Write its significance.
(g) Define 'atom economy'.

(3 x 18 = 54 Marks)

- 2 (a) What is secondary battery? Explain construction and applications of lead-acid battery.
(b) Determine the EMF of the following cell at 25°C with the help of Nernst equation by finding the net reaction.



$$(E^{\circ}\text{Mg}^{2+}|\text{Mg} = -2.36\text{V and } E^{\circ}\text{Cu}|\text{Cu}^{2+} = -0.334\text{V})$$

- 3 (a) How do you estimate the temporary hardness of water by EDTA method?
(b) Define corrosion. Discuss the various factors influencing the rate of corrosion.

- 4 (a) Differentiate thermoplastic and thermosetting resins.
(b) Explain the preparation, properties and uses of PVC and Nylon 6:6.

- 5 (a) Define Fuel. Describe the requirements of good fuel.
(b) Explain proximate and ultimate analysis of coal.

- 6 (a) Describe the properties and significance of biodiesel.
(b) Explain the classification of composites based on matrix and reinforcement.

- 7 (a) Discuss the mechanism of conduction in poly-acetylene and its applications.
(b) What is hot dipping? Explain surface coating method of galvanizing.
