

CHITTAGONG UNIVERSITY OF ENGINEERING & TECHNOLOGY

B. Sc. Engineering Level-1 Term-I, Final Examination 2020

Subject : Civil Engineering

Paper : Chemistry (Chem-101)

Time : 2 Hours 30 Minutes

Full Marks : 150

Answer any TWO questions from EACH section. Use separate script for EACH section. The figures in the right margin indicate full marks. Use standard value if needed.

SECTION-A

- Q.1. (a) Describe the electrochemical mechanism of corrosion. (10)
(b) Surface preparation is very important before the application of protective coating-Explain. (16.5)
(c) What is meant by stray current effect of cathodic protection? (11)
- Q.2. (a) What is Portland Cement? How is it manufactured by wet process? (15)
(b) Derive a relation for the elevation of boiling point of a solution with its molality. (15)
(c) Discuss about the different types of cement. (7.5)
- Q.3. (a) What are the primary pollutants of air? Mention their possible sources and effects. (13)
(b) What is meant by BOD? What are the levels of BOD of different types of water? (13)
(c) How is greenhouse effect related to global warming? (11.5)

SECTION-B

- Q.4. (a) Discuss the limitations of Mendeleev's periodic table. (7.5)
(b) Discuss the general characteristics of d-block elements. (15)
(c) What is diagonal relationship? Discuss the physical and chemical properties of Si and B. (15)
- Q.5. (a) Distinguish between thermoplastic and thermosetting polymer. (7.5)
(b) What is Bakelite? How is Bakelite manufactured by two-step process? (15)
(c) Discuss compounding technique of rubber. (15)
- Q.6. (a) What is Co-polymer. (7.5)
(b) Describe the manufacturing process of BUNA-Srubber. (15)
(c) What is ionic bond? Explain the conditions for the formation of ionic bond. (15)

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