



NATIONAL OPEN UNIVERSITY OF NIGERIA
UNIVERSITY VILLAGE, PLOT 91 CADASTRAL ZONE, NNAMDI AZIKIWE EXPRESS WAY, JABI - ABUJA.
FACULTY OF SCIENCES
DEPARTMENT OF PURE AND APPLIED SCIENCE
2023/2 EXAMINATIONS

COURSE CODE: CHM302
COURSE TITLE: POLYMER CHEMISTRY 1
TIME: 2 HOURS
INSTRUCTION: Answer question one and any other three questions.

QUESTION ONE

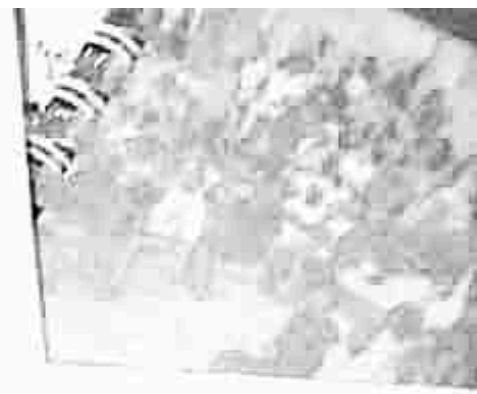
- 1a. In what way is monomer different from polymer and polymerization? 6 marks
- 1b. Name and explain the basic structural properties of polymer? 8 marks
- 1c. Discuss the importance of branched polymer molecule? 5marks
- 1d. Explain how strong carbon-carbon bonds in chain-growth polymers can be biodegraded? 6 marks

QUESTION TWO

- 2a. Differentiate between High-density polyethylene [HDPE] and Low-density polyethylene [LDPE] 8 marks
- 2b. Discuss the importance of Ziegler-Natta catalysts as an initiator in polymer chemistry? 5marks
- 2c. State the factors that determine the solubility of a polymer. 2 marks

QUESTION THREE

- 3a. Discuss the types of bonding that occur in polymers. 10 marks



- 4(a) Enumerate any five issues arising from the progress of science and technology.
- 4(b) Explain the 3 – folds of objective of science teaching which are derived from the nature of science itself.
- 4 (c) Enumerate four attributes needed by scientifically and technologically literate person as part of the Science – Technology – Society (STS) movement, suggested by the NSTA (1991)
- 4(d) Highlight any five Causes of Deforestation.