



Holiday Assignments

ADVANCE LEVEL

Subject: Logic

Grade 13

Medium: English

Logic and scientific method

- 1) "All scientific observations are based on hypotheses". Explain this statement by giving examples from the history of science.
- 2) What are the differences between observation and experiment?
- 3) Construct logic gates to represent the following symbolic formulae.
 - I. $(P \wedge Q)$
 - II. $(P \vee Q)$
 - III. $(\sim P \wedge Q)$
 - IV. $\sim(P \vee Q)$
 - V. $(P \rightarrow Q)$
- 4) Symbolize the following sentences in terms of the predicate Calculus giving your scheme of abbreviation.
 - I. If anything is a book it is good
 - II. If no girl passes the examination then no girl enters to the university.
 - III. All women are intelligent
 - IV. Some politicians are bad
 - V. Doctors are good.
- 5) Write notes on the followings.
 - I. Sorites in logic
 - II. Demarcation methodology
 - III. Rules of predicate calculus
 - IV. Practical value of logic
 - V. Issues of suicide in Sri Lanka
 - VI. Genetic technology
 - VII. Control group method
 - VIII. Gravitation theory
 - IX. Principles of Marxism

X. Sigmund Freud's psychoanalytical theory