Tutorial 3

1.	Transfer Following Statements in Logical equivalence using Quantfiers. a) "None of my friends are perfect". b) "Some Real numbers are rational". c) "Not all rainy days are cold" d) "Gold and Silver ornaments are precious." e) "Every clever student is successful"
2.	Negate following and represent them in both English and symbolic form a) All good students study hard. b) There is a triangle whose sum of angles $\neq 180^\circ$.
3.	Consider the following conditional statement: *If the flood destroy my house or the fires destroy my house, then my insurance company will pay me.* Write the converse, inverse and contrapositive of the statement.
2.	Verify Following argument is valid or not, using rules of inference. a) $\{p \rightarrow q, q \rightarrow r, p\}$ are the premises with conclusion r. b) $\{ p \rightarrow q, q \rightarrow r, \neg p\}$ are the premises with conclusion $\neg r$. c) The conclusion $\neg p$ follows from $\{p \rightarrow q, q \rightarrow r, \neg r\}$ premises. d) $\{a \vee b, b \rightarrow c, a \rightarrow d, \neg d\} \longrightarrow c$
3.	Check the following arguments are valid or not? a) S1: If today is David's b'day then today is 2nd april. S2: Today is 2nd April. ∴ Today is David's B'day. b) S1: If Canada is a country then London is a city. S2: London is not a city. Conclusion: Canada is a country.
4.	Check the argument is valid or not? If today is Tuesday, then I have a test in computer science or a test in Economics. If my Economic professor is sick, then I will not have a test in economics. Today is Tuesday & my economics professor is sick therefore, I have a test in computer science.