

(2)

3. State and prove the fundamental theorem of Information theory.
4. Derive the general solution of the fundamental equation of information.
5. State and prove necessary and sufficient condition for the existence of instantaneous codes.
6. (a) Explain in brief about continuity and branching.
(b) Explain joint and conditional entropies with example.
7. (a) Write down the properties of transformation.
(b) Explain instantaneous codes and optimal codes.
8. (a) Explain Axioms for a measure of uncertainty.
(b) Explain calculation of Channel capacity decoding schemes.
9. (a) State and prove converse to the coding theorem for time discrete Gaussian Channel.
(b) Explain ingredients of noiseless coding problem.

(3)

- 10.** (a) Explain additivity and subadditivity of a measures of entropy.
- (b) What is Transformation ? Write its properties.
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