AMSV13 RIVER ENGINEERING

UNIT-1 RUN OFF

1.1 Introduction, Hydrograph, Runoff Characteristics of Streams, Yield (Annual Runoff Volume),

1.2 Flow-Duration Curve, Flow-Mass Curve, Sequent Peak Algorithm, Droughts, Surface Wter Resources Of India

UNIT-2 STREAM FLOW MEASUREMENT

2.1 Introduction, Measurement Of Stage , Measurement Of Velocity, Dilution Technique Of Streamflow Measurement,

2.2 Electromagnetic Method, Ultrasonic Method, Stage-Discharge Relationship, Extrapolation Of Rating Curve, Hydrometric Stations

UNIT-3 FLOODS

3.1 Introduction, Rational Method, Empirical Formulae, Unit Hydrograph Method, Flood-Frequency Studies,

3.2 Gumbel's Method, Log-Pearson Type iii Distribution, Partial Duration Series, Regional Flood Frequency Analysis,

3.3 Limitations Of Frequency Studies, Design Flood, Design Storm, Risk, Reliability And Safty Factor

UNIT-4 FLOOD ROUTING

4.1 Introduction, Basic Equations, Hydrologic Storage Routing, Attenation, Hydrologic Channel Routing, Hydraulic Method Of Flood Routing,

4.2 Routing In Conceptual Hydrograph Development , Clark's Method For Iuh,

4.3 Nash's Conceptual Model, Flood Control, Flood Forecasting, Flood Control In India

Reference Books:

1. River Engineering by K D Gupta
2. Applied Fluvial Geomorphology for River Engineering and Management by Malcolm D Newson and Richard D Hey
3. Swiss Competences in River Engineering and Restoration by Anton J Schleiss and JürgSpeerli