1.　Define and explain the following terms:

　　(1) Dewpoint (5%)

　　(2) Flood plains (5%)

　　(3) Evaporation (5%)

　　(4) Hydraulic radius (5%)

　　(5) Precipitation (5%)

　　(6) Capillary fringe (5%)

　　(7) Porosity (5%)

　　(8) Confined aquifer (5%)

2.　Describe the Darcy's law and its limitations. (10%)

3.　At a climate station, air pressure is measured as 100 kPa, air temperature as $21°C$, and the dew-point temperature as $16°C$. Calculate the corresponding vapor pressure (5%) and relative humidity (5%).
　　(Note: exp(1.0909)=2.9769, exp(1.4041)= 4.0717)

4.　Describe the water balance method for estimating the evaporation of a reservoir. (10%)

5.　The following table summarizes the data of the discharge rate of a 1-hr unit hydrograph $U(1,t)$. Compute the discharge rate of the 4-hr unit hydrograph $U(4,t)$ in a table from time = 0 hr to 9 hr. (15%)

Time (hr)	0	1	2	3	4	5	6
Q (cms)	0	100	350	500	450	200	0

6.　Use the Thiessen polygon method (10%) and an arithmetic method (5%) to determine the average rainfall for the watershed shown in the following table for the precipitation depths and areas shown.

Station number	1	2	3	4
Precipitation (mm)	6	5	3	7
Area (km^2)	15	25	10	30

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