1. Which of the following methods is NOT commonly used for stream flow measurement?
a) Float method
b) Weir method
c) Evapotranspiration method
d) Current meter method

Answer: c) Evapotranspiration method
Explanation: The evapotranspiration method is primarily used to estimate the loss of water from vegetation and soil, not for direct stream flow measurement.

2. What is the primary purpose of a rating curve in hydrology?
a) To estimate stream discharge based on stream stage
b) To calculate evaporation rates
c) To measure groundwater levels
d) To predict rainfall intensity

Answer: a) To estimate stream discharge based on stream stage
Explanation: A rating curve relates the stage (height of the water surface) of a stream to its discharge (flow rate), allowing for estimation of discharge based on stage measurements.

3. How does a stream gauge network contribute to hydrological monitoring?
a) By measuring atmospheric pressure
b) By monitoring soil moisture levels
c) By providing real-time data on stream stage and discharge
d) By predicting landslide occurrences

Answer: c) By providing real-time data on stream stage and discharge

Explanation: Stream gauge networks consist of multiple gauges strategically placed along water bodies, providing continuous data on stream stage and discharge, which is crucial for hydrological monitoring and flood forecasting.

4. Which hydrograph represents the relationship between stream stage and discharge over time?
a) Stage hydrograph
b) Discharge hydrograph
c) Evaporation hydrograph
d) Transpiration hydrograph

Answer: b) Discharge hydrograph
Explanation: A discharge hydrograph displays the variation in stream discharge over time, often in response to rainfall events or snowmelt.

5. How can evaporation from water surfaces be minimized?
a) Increasing surface area
b) Adding salt to the water
c) Covering the surface with a film
d) Increasing wind speed above the water surface

Answer: c) Covering the surface with a film
Explanation: Covering the water surface with a film, such as a layer of oil or plastic, reduces direct exposure to air and can significantly reduce evaporation rates.

6. Which factor does NOT affect the accuracy of stream flow measurement?
a) Channel geometry

b) Temperature
c) Vegetation density
d) Sediment load

Answer: c) Vegetation density
Explanation: While vegetation density may affect local hydrological processes, it typically does not directly influence the accuracy of stream flow measurement.

7. Which method is commonly used to estimate evapotranspiration rates from agricultural fields?
a) Pan evaporation method
b) Snow pillow method
c) Soil moisture probe method
d) Groundwater piezometer method

Answer: a) Pan evaporation method
Explanation: The pan evaporation method involves measuring the rate at which water evaporates from a pan placed on the ground surface, providing an estimate of potential evapotranspiration rates for the surrounding area.

8. What does the term “stage-discharge relation” refer to in hydrology?
a) The relationship between rainfall intensity and runoff
b) The relationship between stream stage and discharge
c) The relationship between groundwater levels and precipitation
d) The relationship between channel slope and sediment transport

Answer: b) The relationship between stream stage and discharge

Explanation: Stage-discharge relation describes how the stage (water level) of a stream or river corresponds to its discharge (flow rate) under various conditions.

9. How does the float method measure stream flow?
a) By measuring the velocity of water using a current meter
b) By timing the passage of a floating object along a known distance
c) By using a weir or flume to measure the depth of water flow
d) By analyzing the isotopic composition of water samples

Answer: b) By timing the passage of a floating object along a known distance
Explanation: The float method involves releasing a floating object into the stream and timing how long it takes to travel a known distance, from which flow velocity and discharge can be calculated.

10. Which factor is NOT typically considered when calculating evapotranspiration rates?
a) Temperature
b) Humidity
c) Wind speed
d) Sediment concentration

Answer: d) Sediment concentration
Explanation: Sediment concentration is not a direct factor influencing evapotranspiration rates, which are primarily affected by temperature, humidity, and wind speed.