Ways to prevent the disease COVID-19

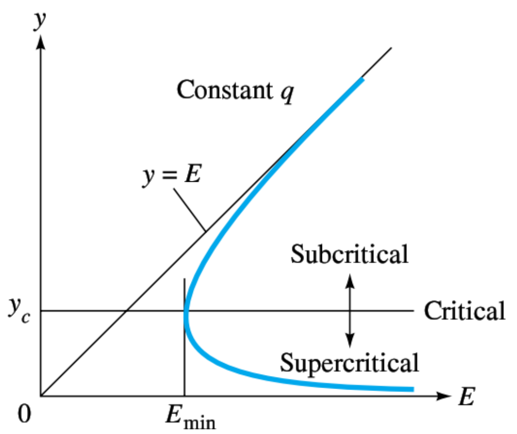
1. Wash Your Hands For 20sec.
2. Cover Nose & Mouth When Sneezing.
3. Use hand sanitizer if soap and water are not available.
4. Avoid Crowded Places (Social Distancing)
5. Avoid Contact With Sick People
6. Stay At home
7. Don't visit outside unnecessarily

Subject: Hydraulics Engineering **Instructor:** Engr. Fawad Ahmad
Total Marks: 30

Note: Attempt all questions. **R** is your class id.

Q.NO (01)		**(10)**
A	Let suppose a rectangular channel, discharges **R** liter/sec of water into a 8m wide apron with zero slop. Mean velocity is **R**-220 ft/sec. Calculate: 1. Height of hydraulic jump (In unit of Meter) 2. Power absorbed due to hydraulic jump (In unit of KW)	5
B	A sluice gate controls the flow in a channel of width 4 m. If the discharge is **R** ft^3/sec and the upstream and downstream water depth is 2.9 m and 1.1 m respectively, calculate the downstream velocity. Also state the type of flow at upstream and downstream side using any equation.	5

Q.NO (02)		**(10)**
A	What is the minimum height (In unit of meter) of broad crested weir if it is to function critical depth on the crest. If water flows along a rectangular channel at a depth of 1.8m with a discharge of **R** ft^3/sec. the channel width is 66 ft.	5
B	An orifice in one side of large tank is rectangular in shape. 2.8 m broad and 1.5m deep. The water level on one side of the orifice is 5 meters above its top edge. The water level on the other side of the orifice is 0.6m below its top edge. Calculate the discharge through the orifice if coefficent of discharge is Cd= 0.**R**	5

Q.NO (03)		**(10)**
A	The diameter of a water pipe os suddenly enlarged from **R**-200 mm to **R**+3000 mm. the rate of flow through is 0.95 m^3/sec and the pressure in the larger pipe is **R**+800 N/m^2 Calculate: 1. The loss of Head due to sudden enlargement 2. The power lost due to sudden enlargement 3. The pressure in the smaller pipe (If the pipe is horizontal)	5
B	 What does this blue curve indicates. How it is obtained. Explain the above Figure from each and every point of view.	5