1) A

Mechanical power depicts the energy transferred to the respiratory system by the ventilator during a certain period of time (J/min)

Work (J) = Force (P) . Displacement (V)

Mechanical Power (J/minute) = 0.098 . RR (1/minute) . Pressure (cmH2O) . VT (L)

2) A

0.098 is a correction factor to convert energy to power

3) D

Components of mechanical power are [VCV (left) than PCV (right)]

4) C

Figure in answer 3
5) A

Figure in answer 3 shows the area of the P-V curve is smaller in VCV (left) than PCV (right).

6) D

There are many equations to calculate mechanical power in different modes, however the gold standard to calculate the geometrical area of the P-V curve.

7) A

Figure in answer 3.

8) A

Newer adaptive modes using optimal schemes like ASV and AVM have shown to lower the mechanical power compared to conventional modes.

9) C

Unlike the total mechanical power that takes in account the total respiratory elastance, transpulmonary mechanical power takes account of the transpulmonary (lung) elastance. Transpulmonary mechanical power might be a better target than total mechanical power.

10) The few studies to date have shown that mechanical power is related to VILI and mortality.