Answers for the past QE111 examination questions
on open systems and application of steady flow energy equation:

February 2007 (End of Semester Examination - E05 batch)

3. 1.2 kg/s; at 2 bar with $x = 0.93$

4. 13.24 MW; 0.546 m^2; 0.878 m^2

May 2006 (End of Special Session Examination - E04 batch)

4. b) 444.6^oC; c) 6.1 kg/s

5. 0.1244 kg; 420 K; 10.71 bar

February 2006 (End of Semester Examination - E04 batch)

3. 5.495 kg; 420 K

4. 2744.5 kJ/kg; 638 kW

June 2005 (End of Semester Examination - E03 batch)

3. b) 536.5 m/s c) 0.134 m

4. 8.21 kg; 392.8 K

March 2004 (End of Special Session Examination / E02a batch)

3. 1.578 m/s in 50 mm pipe; 0.986 m/s in 100 mm pipe; 0.55 W of heat is lost to the surroundings from the mixing vessel.

4. 30 kJ heat is trasferred to the cylinder from the surroundings to maintain the temperature of oxygen in the cylinder at 30^oC; The temperature of the oxygen in the cylinder would have reduced if the cylinder were insulated.

January 2004 (End of Semester Examination - E02a batch)

3. a) 0.165 b) 2333.3 kJ per kg of feed-water.

4. 6.734 kg; 1.5 MJ

December 2003 (End of Special Session Examination / E02 batch)

3. 0.0044 m^2; 0.0026 m^2; 2763.7 kJ/kg; 150^oC

4. 424.2 K; 0.3284 kg

August 2003 (End of Semester Examination - E02 batch)

4. b) 646.8 m/s c) 57 kg/s

5. 0.08 kg

December 2002 (End of Special Session Examination - E01 batch)

3. 1.713×10^{-3} m^2; 1.034×10^{-3} m^2; 411.3

4. 52.17 g; 2576 kJ/kg

September 2002 (End of Semester Examination - E01 batch)

3. 0.78 kg

4. 0.975 kg/s; 857.8 K; 136 mm

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