

ENGINEERING TRIPOS PART IIA 2012
MODULE 3A5 – THERMODYNAMICS AND POWER GENERATION

ANSWERS

1. (b) (ii) 220.4 MW, 37.5 MW, 259.2 MW (isentropic turbine)
(iv) 295.9 MW, -2.2 MW (feed pump), 24.1 MW (throttle), 0.737
2. (a) $c_p = A + BT + 12KpT^{-4}$
3. (b) 0.421, 0.474
4. (a) (i) 2385.5 kJ/kg
(ii) 1275.7 kJ/kg, 0.363
(b) 141 °C, 0.770

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