

5.55

(a) $m=4, j=5, r=3, e_c=0$

$$3m+r = 3j+e_c; \text{ Statically determinate}$$

(b) $m=6, j=7, r=3, e_c=1$

$$3m+r < 3j+e_c; \text{ Unstable}$$

(c) $m=7, j=6, r=3, e_c=0$

$$3m+r > 3j+e_c; \text{ Statically indeterminate}$$

$$i = (21+3) - 18 = \underline{6}$$

(d) $m=7, j=7, r=6, e_c=1$

$$3m+r > 3j+e_c; \text{ Statically indeterminate}$$

$$i = (21+6) - (21+1) = \underline{5}$$