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Q1. (a) i. Yes. ii. Yes iii. No iv. No v. Yes vi. Yes

(b) Yes. $Y \rightarrow Z$. for any u, v in S , $u.Y = v.Y \Rightarrow u.Z = v.Z$

Q2. (a) iv.

(b) i. Yes ii. No iii. Yes iv. Yes v. Yes vi. No

(c) True (d) False

Q3. (a). $\{AB\}^+ = \{A, B, C, D\}$

(b) i. True ii. True (c) i. False ii. True

(d) i. True ii. False

Q4. (a) $\{RS\}, \{PQ\}$ (b) No

(c) i. False ii. False iii. False iv. True v. True

(d) Yes

(e) i. True ii. False iii. True iv. True v. False

(f) $\{P, Q, R, S\}$ (g) $\{R, P\}, \{S, Q\}, \{S, R\}$