vector fault coverages are low, what can be done to improve them? (c) If the SOC had an analog module, could that be tested?

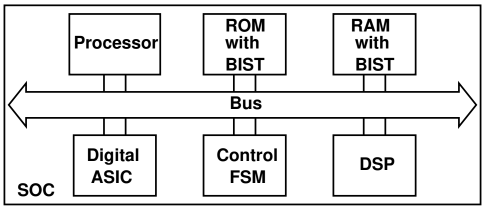

Figure 18.9: SOC for Problem 18.8.

18.9 *Rent's rule.* For Rent's rule, given by Equation 18.3, assume that $\alpha = 0.5$ and derive the value of the constant K to best fit the data on ten ISCAS'85 [100] combinational benchmark circuits given in Table 18.5.

Table 18.5: Size statistics for the ISCAS'85 combinational benchmark circuits.

Circuit name	Number of PIs	Number of POs	Number of gates
c432	36	7	160
c499	41	32	202
c880	60	26	383
c1355	41	32	546
c1908	33	25	880
c2670	233	140	1193
c3540	50	22	1669
c5315	178	123	2307
c6288	32	32	2416
c7552	207	108	3512

18.10 *Rent's rule.* For Rent's rule, given by Equation 18.3, assume that $\alpha = 0.5$ and derive the value of the constant K to best fit the data on ten largest ISCAS'89 [99] sequential benchmark circuits given in Table 18.6.

Table 18.6: Size statistics for the ISCAS'89 sequential benchmark circuits.

Circuit name	Number of PIs	Number of POs	Number of gates
s1423	17	5	657
s1488	8	19	653
s1494	8	19	647
s5378	35	49	2779
s9234	19	22	5597
s13207	31	121	7951
s15850	14	87	9772
s35932	35	320	16065
s38417	28	106	22179
s38584	12	278	19253