## 23 Lecture - CS402

## Important Mcqs

1. Which of the following is a regular language?
a) $\{$ anbn $\mid n ? 0\}$
b) $\{$ anbn $\mid n>0\}$
c) $\{a n b m \mid n ? m\}$
d) $\{a n \mid n$ is prime $\}$

Answer: a) $\{$ anbn | n ? 0 $\}$
Which of the following operations does not result in a regular language?
a) Union
b) Concatenation
c) Kleene star
d) Intersection

Answer: d) Intersection
Which of the following is a regular expression for the language consisting of all strings of 0 's and 1 's that do not contain the substring 11?
a) $(0+1) 11(0+1)$
b) $(0+1) 0(0+10)$
c) $(0+1)(1+01)$
d) $(0+1) 1(0+01)$

Answer: d) $(0+1) 1(0+01)$
Which of the following is not a regular language?
a) $\{0 n 1 n \mid n ? 0\}$
b) $\{0 n 1 n \mid n>0\}$
c) $\{0 \mathrm{n} 1 \mathrm{~m} \mid \mathrm{n}, \mathrm{m}$ ? 0$\}$
d) $\{0 \mathrm{n} \mid \mathrm{n}$ is a perfect square $\}$

Answer: d) $\{0 \mathrm{n} \mid \mathrm{n}$ is a perfect square $\}$
Which of the following is a regular expression for the language consisting of all strings of 0 's and 1 's that end with 01 ?
a) $(0+1)^{*} 01$
b) $(0+1)^{*} 0(1+01)$
c) $(0+1)^{*} 1(0+1)^{*} 01$
d) $(0+1) 1(1+01)$

Answer: c) $(0+1)^{*} 1(0+1)^{*} 01$
Which of the following is a regular expression for the language consisting of all strings of 0 's and 1 's that contain at least one 0 and one 1?
a) $(0+1) 01(0+1)$
b) $(0+1)^{*} 0(0+1) 1(0+1)$
c) $(0+1)^{*} 0+(0+1) 1+$
d) $(0+1)$

Answer: b) $(0+1)^{*} 0(0+1) 1(0+1)$
b) $\{w$ | the length of $w$ is a prime number $\}$
c) $\{w \mid w$ contains a substring of three $0 ' s\}$
d) $\{w \mid$ the number of 0 's in $w$ is equal to the number of 1 's in $w\}$

Answer: d) $\{w \mid$ the number of 0 's in $w$ is equal to the number of 1 's in $w\}$
Which of the following is a regular expression for the language consisting of all strings of 0 's and 1 's with an even number of 0 's and an odd number of 1 's?
a) $(0+1)^{*} 00(0+1) 11(0+1)$
b) $(0+1)^{*} 01(0+1) 10(0+1)$
c) $(0+1)^{*} 0(0+1)^{*} 1(0+1)^{*} 1$
d) $(0+1)^{*} 0(0+1)^{*} 1+$

Answer: c) $(0+1)^{*} 0(0+1)^{*} 1(0+1)^{*} 1$
Which of the following is not a regular language

