Gomal University D.I Khan

\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

Total Marks: 18

Subject: Theory of Automata

Examination: Mid-Term

\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

Q1. Answer the correct option. 4x1

1. Which of following is not a part of 5 tuple finite automata.

a) Input Alphabet

b) Transition function

c) initial State

d) Output Alphabet

2. \_\_\_\_\_\_\_\_\_\_\_ is the Regular Expression for all strings start with ab and end with bba.

a) aba\*bbba

b) ab(ab)\*bba

c) ab(a+b)\*bba

d) all of above

3. The representation of kleene plus is:

a) \*

b) +

c) €

d) none of above

4. If S = abbc is given string then cbba shows:

a) length of string

b) Reverse of string

c) Power of string

d) None of above

Q2. Answer the following (10)

i. Define length of string

ii. Write Regular Expression for the language that don’t contain substring aba.

iii. Write the regular expression for the string that contains any a.

iv. Determine the power of the string ba^3ba.

v. Draw DFA for the language end with substring aa.

Q3. Define F.A and its types and also draw a DFA for the language accepting strings starting with 01.

BEST OF LUCK