Q.1

A = 10

B = 1111

C = 1110

D = 110

E = 0

Average bit count = A(2) + B(4) + C(4) + D(3) + E(1)/5 = 2.8

Q.2

Sender transmits complete state snapshot. Folowing messages only contain changes

made to the snapshot. e.g Delta Lambda

Q.3

Input phrase: BABAABAAA

Basic Dict:

A = 65

B = 66

C = 67

D = 68

BA = 69

AB = 70

BAA = 71

ABA = 72

AA = 73

BABAABAAA

S = B - in dict

S = BA - not in dict

Code = 66

add BA to dict

BABAABAAA

S = A - in dict
S = AB - not in dict
Code = 6665
add AB to dict

BABAABAAA

S = B - in dict
S = BA - in dict
S = BAA - not in dict
Code = 666569
add BAA to dict

BABAABAAA

S = A - in dict
S = AB - in dict
S = ABA - not in dict
Code = 66656970
add ABA to dict

BABAABAAA

S = A - in dict
S = AA - not in dict
Code = 6665697065
add AA to dict

BABAABAAA

S = A - in dict

S = AA in dict

code = 666569706573