

=ba][fUM]i b
9gi X]Uf



9gi X]Uf !'i b]j Yfg]XUX

=fU]Ubc

; f]Y[c

J cffY]]gW]j Yfa]'U`fi b]j Yfg]h4

=bX]WUf`ei Y`ei]YfYg'a Uf]W`UfY

"

J cffY]]gW]j Yfa]'U`i b`Vfgc`SSSSSSSSSSSS"

=bX]WUf`ei Y`ei]YfYg'a Uf]W`UfY`Yb`i bU]g][b]hi fU

'SSSSSSSSSSSS"

X]`U`fYU`f]YbbUY

H]dc`XY`a UfE`W`U

X]`U`fYU`a U`]gfUY

H]dc`XY`a UfE`W`U

X]`Xc]hcfUhc

H]dc`XY`a UfE`W`U

U`hYa dc`d]Ybc

H]dc`XY`a UfE`W`U

dUf]h]a Y

H]dc`XY`a UfE`W`U

cb`]bY

H]dc`XY`a UfE`W`U

J cffY]]gi X]UfY`dfYggc`Uj cgfU`i b]j Yfg]h4dYf
SSSSSSSSSS"

=bX]WUf`U`Xi fUM]i b`XY`hi`dYf]cXc`XY`]bhYfW]a V]c

SSSSSSSSSSSS"

i b`gYa YgfY

8 i fUM]i b`XY`U`Yg]ubV]U`Yb`U`i b]j Yfg]XUX`XY`XYg]bc

i b`Ubbc`UMWXYa]Vt

8 i fUM]i b`XY`U`Yg]ubV]U`Yb`U`i b]j Yfg]XUX`XY`XYg]bc

E i U]`gcbc`Y`fYgf]n]cb] f][i UfXc`]`U`j cfc`dYf`[]
gi XYb]3

=bZcfa UfY`XY`Ug]fYgf]W]cbYg`UwcfU`Yg]dUfU`Ygi X]Ub]h]g

/

=ba][fUM]i b
9gi X]Uf



8 Yj c`dfYgybhuFY`XcWVa Ybh]cf[[]bU]`c`XY`Y
Wtd]Y3 /
DfY[i bhUF`g]`h]YbYgei Y`dfYgybhuF`XcWVa Ybhcg]cf[[]bU]Ygc`ZchcWtd]Ug

E i U]`gcbc`]`fYei]g]h`X]`UWWggc`U`fi b]j Yfg]h43 /
DUFU`Ugc`]V]h X`XY`UWWgc`U`U`i b]j Yfg]XUX

A]]bj]YfYi`i bU`YhYfUX]`Ua a]gg]cbY3 /
DfY[i bhUF`g]`fYV]W]f]g]i bU`WfU`XY`UWdhUW]i b

@fi b]j Yfg]h4[UfUbh]gW`UbVXY`fU`c`[]c3 /
DfY[i bhUF`g]`U`i b]j Yfg]XUX`dfcdcfV]cbU`U`c`Ua]Ybhc

=`Vzfgc`X]`U`fYU`dfYj`YXY`c`g`c`[]a`Ybhc`X]`i`bc`
gh]Y3 /
DfY[i bhUF`g]`h`i`d`Ub`XY`Ygi`X]cg`VzbhYa`d`U`dYf]cXcg`XY`df`W]W]g]dfcZ]g]cbU`Yg

7 fA`i`b`Vzgc`dYf`g`c`[`YfY`i`bc`g]Va`V]c`Vza`Y`
gi`XYbh`g]f]Ub]Yfc`dfYggc`Uj`cg]fU`i`b]j`Yfg]h43 /
DfY[i bhUF`g]`h]YbYgei Y`dU[Uf`Ua`UfE]W`U`Yb`U`i`b]j`Yfg]XUX`XY`XYg]bc

7 ca`Y`dcggc`YggYfY`U`[]`cfbUhc`#U]g``dfc[`fYggc`XY`U` /
a]UXca`UbXUX]`Ua`a]gg]cbY3
=bZcfa`UfY`XY`W]a`c`Vzbg`hUF`Y`YghXc`XY`h`gc`]V]h`X

7 \Y`j]`Y`c`X]`O]b[i`UO]f]W]Yg]c3 /
=bZcfa`UfY`XY`b]j`Y`XY`X]ca`U`b`W]g]U]c`dUfU`gYf`UWdhU`Xc`Yb`U`i`b]j`Yfg]XUX

7 ca`Y`Zi`bn]cbU]`g]g]Ya`UX]`SSSSSSSSSS3 /
SSSSSSSSSSSSS/
DYX]f]bZcfa`UW]i`b`gc`VfY`Y`g]g]Ya`U

WYX]h
H]dc`XY`g]g]Ya`U

j`Ui`h]cbY
H]dc`XY`g]g]Ya`U

=ba][fUM]i b 9gi X]Uf



5j fī i b`Wfh]Z]Wlc`XY[`]YgLa]`gcb]Ybi h]`U`U]Z]bY
XY`dYf]cXc`X]g]Wla V]c3 /
DFY[i b]hUf`g]`fYV]W]f]g]i bU`Vtd]U`XY`h`Yi`dYX]Yb]h`UMX`Aa]Vt`U`Z]bU`XY`U`Yg]Ub]V]U

E i U]`gcbc`]`a`YrcX]`Xf]bgY[bLa Ybhc3 /
DYX]f]`]bZcfa UM]i b`gcVfY`Y`Yg]`c`XY`YbgY] UbnU

7]`gcbc`SSSSSSSSSSSSSS3 `SSSSSSSSSSSS` /
DYX]f]`]bZcfa UM]i b`gcVfY`Y`Yg]`c`XY`YbgY] UbnU

`Yn]cb]`Zfcb]U]
H]dc`XY`WUgY

gYa]bUf]
H]dc`XY`WUgY

YgYfV]h]cb]
H]dc`XY`WUgY

Vt]bZ]fYbnY
H]dc`XY`WUgY

E i U]`Vt]f]j`Yb[cbc`cZ]Yf]`XU`Y`Gi`a`a`Yf`GW]cc`3 /
DFY[i b]hUf`dcf`U`cZ]Yf]U`XY`W]f]g]c]g]XY`U`Yg]W]Y`U`XY`j`Yf]Ubc

E i UbXc`g]`g`c`[cbc`[`]`YgLa]3 /
DFY[i b]hUf`dcf`Y`dYf]cXc`XY`Yi`1/2`YbYg

8cj`Y`dcggc`f]c]`UfY`]bZcfa`U]cb]`g`h]h]`]`Vt]f]g]
X]g]cb]V]`]3 /
DFY[i b]hUf`X]`bXY`Vt]bgY[i]f]`]bZcfa`UM]i`b`gcVfY`Ug]Ug][`b]h]`f]Ug

7f]i`b`Wb]h]c`g]dcf]j`c`i`b]j`Yf]g]h]Uf]c3 /
DFY[i b]hUf`g]`U`i`b]j`Yf]g]X]U`X`W]Yb]h]U`Vt]b`]bg]h]U`UM]cb]Yg]XY`dcf]j`Ug

7ca`Y`dcggc`i`b]fa`]`U]`W`V`g]h]`XYb]h]g]W]3 /
DFY[i b]hUf`W]a`c`i`b]f]g]Y`U`Ug]Ugc]V]UM]cb]Yg]XY`Yg]h]X]U]b]h]g

=ba][fUM]i b 9gi X]Uf

E i U`Ä]`Vtgc`XY`Uj]HU`U`W`h`c3
DYX]f`]bZcfa U]i b`gc`VfY`Y`Vtgh`XY`Uj]XU`Yb`U`V]i XUX

9gi X]Uf!`7i fgcg]XY]X]ca Ug

=HU]Ubc ; f]Y]c

E i U]`b[i Y`dcggc`gh X]UfY`dfYggc`Uj cgfU`gW`c`U3
=bZcfa UfY`XY`cg]X]ca Ugei Y`gY`di YXYb`Ygh X]Uf`Yb`Y`Wb]fc

7Ä`i b`hYgidYf`gUM]`]fY]`a]c`]j Y`c`X]`dUfYbnU3
DFY[i b]Uf`g]Yi]ghYb`dfi YWUg]XY`b]j Y`

Dcggc`Wla V]UfY`]j Y`c`gY`ei Y`c`WXY`gnc
ZYei Yb]Ubc`bcb`Ä`UXU]tc`U`a`Y3
DFY[i bUf`g]Yg`dcg]V`Y`Wla V]UfY`XY`b]j Y`Yb`WUgc`XY`bc`Yg]Uf`Vt`b]h]b]tc

Dcggc`Uj YfY`i bUXYgW]n]cbY`XY]U]`]U]U`XY`W`f`gc3
DFY[i b]Uf`g]Yi]ghYb`XYgW]dV]cbYg`XY]U`UXUg]XY`Ug]Ug]]bU]i`fUg

E i U`Ä]`bi a Yfc`a Ugg]a c`g]`gh X]Yb]`dYf`WUggY3
DFY[i b]Uf`dcf`Y`a`½]a c`bÖa Yfc`XY`Ygh X]U]b]h]g]Yb`WUXU`WUgY

E i U]`gfi]hi fY`Y`gYfj]n]`gcbc`X]g]dcb]V]`]bY`U
j cgfU`gW`c`U3
DFY[i b]Uf`dcf`Ug]b]ghU]U]cbYg`XY`Wb]fc

Cf[U]n]U]Y`XY`Y`YgW]fg]cb]3
DFY[i b]Uf`g]Y`Wb]fc`cf[U]n]U]Yi W]fg]cbYg

7\Y`dfc[f]Ua`a`]`cZ]f]Y3
=bZcfa UfY`gc`VfY`cg]dfc[f]Ua`Ugei Y`gY`cZ]f]U]b

9gi X]Uf!`6WUg

=HU]Ubc ; f]Y]c

J`cffY`W]YXYfY`]bZcfa U]cb]`g`Y`dcgg]V]`]h`4X]
Z]bUbn]Ua`Yb]tc"
DYX]f`]bZcfa U]i b`gc`VfY`Z]bU]bV]U]i b

=ba][fUM]i b 9gi X]Uf

E i U]`Ybh`dccc`bc`Z]bLbn]UFY`]`a]Y]`gh X]3

DFY[i b]UF`ei A`cf[Ub]ga cg`di YXYb`Z]bLbV]UF`hi g`Ygh X]cg

< c`V]gc[bc`X]`Uji hc`Z]bLbn]UF]c`dYf`SSSSSSSSSSSS"
=bX]V]UF`ei Y`bYVWg]h]Ug`Lhi XU`Z]bLbV]YFU

SSSSSSSSSSSS"

`Y`h]ggY`i b]j Yfg]h]UF]Y
5ei Y`c`dUfU`c`ei Y`bYVWg]h]Ug`Lhi XU`Z]bLbV]YFU

`Y`gdYgY`X]`gcgY`b]Ua Ybhc
5ei Y`c`dUfU`c`ei Y`bYVWg]h]Ug`Lhi XU`Z]bLbV]YFU

]`gYf]]n]`dYf`f]b]Z]bn]U
5ei Y`c`dUfU`c`ei Y`bYVWg]h]Ug`Lhi XU`Z]bLbV]YFU

E i U]`h]d]`X]`Vcf]gY`X]`gh X]c`gcbc`X]g]cb]V]`]3
DYX]f`]b]Z]cfa U]Y]i b`gcVfY`V]V]W]g

9gi X]Uf !`7 cbj U]XUM]i b`XY`h]i `cgYi hfUb`Yf`cg =h]U]bc ; f]Y]c

J`c]ffY]`V]cbj U]X]U]Y]`]`a]c`W]fh]Z]V]U]c`X]`U`fYU]b
Q]U]Y]gY]Q
=bX]V]UF`ei Y`ei]YfYg`V]cbj U]X]U]f`hi`h]i`c`U]W]X]A]a]V]c`Yb`Y`dU]E]gXY`XY]g]bc

o o

5j Y]hY`i bU`]g]U`XY]`hf]UXi`h]cf]`[]i`f]U]`]b`O]b[i`U]Q
DYX]f`i`bU`]g]U`XY]`hf]UXi`V]c]fYg`f]UXcg`Yb`Y`Yb[i`U]Y`V]c]ffY]g]cbX]Y]b]hY

o o

8cj Y`dccc`c]h]YbYfY`i b`W]fh]Z]V]U]c`X]`Yei]j`U]Ybn]U]3
DFY[i b]UF`X]i bXY`V]cbgY[i]f`i b`W]fh]Z]V]U]c`XY`V]cbj U]X]U]Y]i b

/