

!
!]=!57 . !\$(%)(' / , %C3(!/!)!(, %2)\$, -!+#*+!+#(!+(8+!/1!+#(!! "#\$%&'() "*+ , ---.)(: *\$, %!
! '(4\$(36!*%!*' ')/9(0!C6!+#(!5*423+6=!!
!!
! ^=!57 . !4/ , 9(, (%!+#(!. / : : \$+((!/!!. / : : \$+((!D!A#\$4#!4/ , %\$%+%/!/1!1*423+6! : (: C()!
!

7=!U/)S\$, -!A\$+#!%+*11\$, !. / : : 2, \$4*+\$/ , %D!57 .!' /%+%!+#(!4/#/)+!3\$+%!* , 0!2 '0*+(%!3\$, S!+\$+3(%!/, !
+#(!57 . !A(C!' *- (!4/ , +*\$, \$, -!d@*CC*+\$4*3! . /#/) +%d!!

[#++ '%?00AAA=%SS0 : /\)=\(020- /9\(\), *, 4\(01\(40%*CC*+\\$4*3G4/#/\)+%0%\(42\)\(0\\$, 0\(8='#!](#)

!

5=!57 .!) (9\$(A%!+#(!. / : : \$+((! I (: C()#S' !c\$%+!+/!0(+): \$, (!S!*, 6!4/ : : \$+((! : (: C()%, ((0!+/
C(!)('3*4(0!1/)!+#(!*4*0(: \$4!6(*)!/)!/)!*% (: (%+)=!57 . !A\$33! : *S(!)('3*4(: (, +%!1)/ : !+#(!E0!
` /4!' / /3=!57 . !*%S%!. / : : \$+((! . #*\$)%!+ /!, /+\$16!57 . !S!+#(6!S, /A! /! /)!*, +\$4\$ ' *+(!, ((0\$, -!* , 6!
)('3*4(: (, +%=!57 . !A\$33! : *S(!+#(!)('3*4(: (, +%!*%!/ /, !*%!' /%%\$C3(=!!

!

Q=" #(!P&5!&11\$4(!4/ , %23+%!A\$+#!57 . !* , 0!+#(, !

P=!E, , /2, 4\$, -!+#(!_ (%23+%!
! F=!57 . !4()+\$1\$(%1+#(!)(%23+%!/1!*33!(3(4+\$/ , %=" #(!/2+4/ : (!/1!(*4#(3(4+\$/ , !)\$%1+#(, !
! * , , /2, 4(0!+ /!+#(!5*423+6!*+!3*)- (=!" #(!* , , /2, 4(: (, +%!#/230!\$, 4320(!+#(!0*+(D!+#(!
! 4/ : : \$+((! , * : (D!+#(! , * : (%!* , 0!0(' *)+ : (, +%!/1!+#(!)(3(4+(0!\$, 0\$9\$02*3%D!+#(!+ /+*3! , 2 : C(!
! /1!9/+(%14*%+D!* , 0!+#(!+() : !/1!%)9\$4(!/!)!(*4#(3(4+(0!\$, 0\$9\$02*3=L , !*00\$+\$/ , D!+#(!)(3(4+\$/ , !
! %4#(023(D!9/+(!+*33\$(%D!* , 0!* , , /2, 4(: (, +%!/1!)(%23+%!#/230!C(!% (, +!+ /!+#(!P&50NMEE!1/)!
! #\$\$0#(!)(4/)0%=!!
!

7=!_ (4/)0!g ((' \$, -!!
! F=!E33!9/+(!+*33\$(%!*)(! : *\$, +*\$, (0!C6!57 . =!E , , /2, 4(: (, +%!/1!)(%23+%!*)(!)(+*\$, (0!
! (3(4+)/ , \$4*336!* , 0!\$, !#*)0!4/ ' 6!C6!+#(!P&50NMEE!&11\$4(!/!)!*' ')\$/0!/1!+#(!6(*)%D!
! *1+(!)A#\$4#!+#(6!*)(!+2) , (0!/9(!+ /!+#(!@S\$0 : /)(! . /33(-!*)4#\$9(%=! "#(!57 . ! . #*\$)!*3%/!
! '3*4(%!+#(! : *+())\$*3%!\$, !+#(! . / : : \$+((!%!*)4#\$9(%! ;% ((!E)+\$43(! f !C(3/A<=!

!!
 , +;(" 11 - +3& .) 3&=0(2) 1%" #) .) 3&=(" 3 5(A - 2 ? +3 4(4 2 - \$ 1=(
E=!57 . !A\$33! : ((+!*1+()!(3(4+\$/ , %!+ /!(3(4+(0!- /9() , * , 4(!4/ : : \$+((%!*)(!4/ : '3(+0!+ /! : *S(!
* ' ' /\$, + : (, +%!+ /!+#(!* ' ' /\$, +(0!- /9() , * , 4(!4/ : : \$+((%!+#!+#!9(!9*4* , 4\$(%=!57 . !A\$33!)(1!)!+ /!
1*423+6!') (1)(, 4(%!1/!)!(*4#!4/ : : \$+((!A#(, ! : *S\$, -!+#(%!* ' ' /\$, + : (, +%=!57 . !A\$33!*3%/!+*S(!\$, + /!
44/2 , +!4/ : : \$+((! , ((0%! , 0!1*423+6!0(9(3/ ' : (, +!A#(, ! : *S\$, -!+#(%!* ' ' /\$, + : (, +%=!)

! b=! . / , %23+*+\$9(!E ' ' /\$, + : (, +%=!)

!

, ++;(- ,) 2=+4 >&(- !(&>)(!'#\$%&') '* + , - - . (

E=157 . !\$\$!4#*)-(O!A\$+#! /9()((\$, -!4#* , -(%!+ /!+#! (!'#\$%&') '* + , - - . !"#\$\$! /9()\$\$-#!\$!0 / , (!\$, !

4 / , %23+*+\$ / , !A\$+#!E " . D! . E5_D!@QED!* , O!+#!(E0 : \$, \$%+)*+\$ / , =!"#(! : *%+)!4 / '6 / !+#! (!'#\$%&' (

) '* + , - - . (\$! : *\$, +*\$, (O!C6!+#!&!11\$4(! / !+#!(P (* , ! / !+#!(15*423+60N\$4(!M)(\$0(, +! /)!E4*0(: \$4!

E11*\$)\$%=" #(! / 2+- / \$, -!57 . ! . #*\$)! : 2%+!%2C : \$+!C6!i2 , (!F!* , 6!4#* , -(%!+#!+#!#*9(!4 / : (!+ / !#\$\$0#()!

+(, +\$ / , ! / 9()!+#!(4 / 2)%(! / !+#!(6 ()!+ / !+#!(P (* , ! / !+#!(15*423+60N\$4(!M)(\$0(, +! /)!E4*0(: \$4!

E11*\$)\$%=" #(! . #*\$)! / !157 . D!\$, !4 / /)0\$, *+\$ / , !A\$+#!+#!(P (* , ! / !+#!(15*423+60N\$4(!M)(\$0(, +! /)!

E4*0(: \$4!E11*\$)\$%!* , OD!A#()(!* ' ') / ')\$*+(D!+#!(M)(\$0(, +! / !@QED!)(9\$%(!+#!(!'#\$%&') '* + , - - . (

\$, ! /)0()!+ / !')%(, +!+#!(!) '* + , - - . (*+!+#!(\$)%+!1*33!5*423+6! I ((+\$, -=" #(!)(9\$%(O!) '* + , - - . (+#(, !

: 2%+!3\$(! / 9()! /)! / , (! : / , +#!C(1 /)(!+\$!\$%9 / +(O! / , =!"#(!) '* + , - - . (C(4 / : (%! / 11\$4\$*3! / , 36! *1+)!+#!(

5*423+6!#*9(!*0 / ' +(O!+#!(!)(9\$%\$ / , %=! ;) '* + , - - . (M*)+!& , (D! f fL!O(%4)\$C(%!+#!(!) / 4(O2)(%! / !)

* : (, 0 : (, +%<=!

!

, +++;(# - . . +&&)(- !(# - . . +&&))=(

E=" #(! . / : : \$+((! / ! . / : : \$+((%! ; . & . <!\$%4 / , 9(, (O!+A\$4(!*!6(*))D! / , 4(!*+!+#!((, O! / !!(*4#!

!
!
!
!
!
!
!
!
!

H=! a '0*+(!+#(\$)!4/ : : \$++(([%!&'))*+\$, -! . /0(!*,0!%(,0!*!4/'6!+!/!57 . !1/)!\$+%!)(4/)0%h!

R=!E3()+!57 . !+!/!+#(\$)!, ((0!1/)!*,6!)('3*4(: (,+%!+!/!+#(\$)!4/ : : \$++(h!

T=!_ (: \$,0!+#(: !+!/!(3(4+!*!4#*\$)!1/)!+#(!1/33/A\$, -!*4*0(: \$4!6(*)!;X/+(?! a ,3(%%!

4/ ,%+\$+2(,+!4/ : : \$++((%!/1!+#(! . / : : \$++(!/1! . / : : \$++((%!%(3(4+!*!%2 : :)!3\$*\$%/ ,!+!/!+#(!

! ! l=!E,6!/+#()!\$(: %!0((: (0!C6!+#(!. #*\$!)#(3' 123!+!/12+2)(\$,4*), *+\$/ , %!/1!57 . =!

!

b=!57 . !A\$33!*)4#\$9(! : *+()\$*3!/ , !+#(!4/33(- (k%!- /9() , * , 4(!A(C!' * - (=!

[#++' %?00AAA=%SS0 : /\)\(=\(020- /9\(\) , * , 4\(01\(40\\$, 0\(8= '# '!](#)

!!

. =!57 . ! : (: C()!* , 0!4#*\$) %!*)(! (, 4/2)* - (0!+ /!) (+*\$, !)(4/)0%1!)/ : !')(9\$/2%16(*)%1/)!*%13/ , -!*%!

\$%!' /%%\$C3(!* , 0!')*4+\$4*3=!

!

!

!

!

!

@ '(4\$*3! . \$)42 : %+*, 4(!F!

L1! : /)(!1*423+6! : (: C()!+##* , !+#!(')(1())(O! , 2 : C()!/1!4* , O\$O*+(%!1/)!* , !*9*\$3*C3(!' /%\$+\$/ , !)* , S!*

4/ : : \$+((!1\$)%+!\$, !+#!(\$)!)'(1)(, 4(%D!+##(, !2' !+!/!+#!(: *8\$: 2 : !*44(' +*C3(! , 2 : C()!/1!4* , O\$O*+(%!

A\$33!* ' ' (*)! / , !+#!(C*33/+L1! : /)(!1*423+6! : (: C()!+##* , !+#!(: *8\$: 2 : !*44(' +*C3(! , 2 : C()!)* , S!

+#!(4/ : : \$+((!1\$)%+!\$, !+#!(\$)!)'(1)(, 4(%D!+##(, !+#!(4* , O\$O*+(%!A\$33!C(!% (3(4+(O)!)* , O/ : 36=!

!

@ '(4\$*3! . \$)42 : %+*, 4(!H!

57 . !A\$33!%(3(4+!4* , O\$O*+(%!+!/!* ' ' (*)! / , !*!C*33/+!1/)!*!4/ : : \$+((!1/)!A#\$4#!+#!(6!#*9(!-\$9(, !+#!(!

3(*%+!)'(1())(O)!* , S\$, -! / , 36!\$, !\$, %+* , 4(%!A#()(!\$+!\$%!, (4(%%*)6!+!/!*4#\$(9(!+#!(: \$, \$: 2 : !*44(' +*C3(!

, 2 : C()!/1!4* , O\$O*+(%! / , !*!C*33/+!5/)! (8* : ' 3(D!\$1!+#!()(!*)(!Fm!4/ : : \$+((%D!*!4* , O\$O*+(!A# /!

)* , S(O!*!4/ : : \$+((!%+#!(\$)!Fm+#!')'(1)(, 4(!A\$33!* ' ' (*)! / , !*!C*33/+! / , 36!\$1!1(A)!+##* , !+#!(!

: \$, \$: 2 : !*44(' +*C3(! , 2 : C()!/1!4* , O\$O*+(%!A# /!) * , S!+#!(!

!

EMM7XPLf!.?!X&_ I Ec!@7 e a 7X . 7!&5!7c 7 . "L&X@!

E=!73(4+(0?!!

F=! E ' '/\$,+, : (, +%!* , 0!" (, 2) (! . / : : \$++(!;E" . <!

H=! M)/ : /+\$ / , %! . / : : \$++(!;M . <!

R=! 5*423+6!78(42+\$9(! . / : : \$++(!;57 . <!

T=! L, %+\$+2+\$ / , *3!M/3\$46!* , 0!M3* , , \$, -! . / : : \$++(!;LMM . <!

Z=! . / : : \$++(! / , !7024*+\$ / , *3!M/3\$4\$(%! o !M3* , , \$, -! ; . 7MM<!

]=! . / : : \$++(! / , !E4*0(: \$4!5)(0 / : !* , 0!_ \$ - # % ! ; . E5_ <!

^=! . 2))\$4232 : ! . / : : \$++(!; . . <!

j=! 5*423+6!P(9(3/ ' (, +! . / : : \$++(!;5P . <!

m=! M(\$43(* , ! ` / , /)%!5 /)2 : ! . / 2 , 4\$3!;M ` 5<!

Fp=!E+#3(+\$4! . / 2 , 4\$3!;E . <!

!

EMM7XPLf!P?!7c 7 . "L&X! . Ec 7XPE_!

U#(, !' / % % \$ C3(D!57 . !A\$33!4 / : ' 3(+(!3(4+\$ / , %!* , 0!* ' ' / \$, + : (, +%!02)\$, -!+#(!1*33!% (: (%+())D!A\$+#!
(3(4+\$ / , %!+*\$S\$, -! ' 3*4(!')\$ /)!+ / ! " # * , S% - \$9\$, -!C) (*S=! " # (!1/33/ A\$, -!\$% ! 2 - - (%+(0?!

F=! 7*)36!@('+(: C)?!4 / , 1\$) : !A\$+#!4 / : : \$++(!4#*\$)%!+#(! , 2 : C)! / 1! / ' (, \$, -% / , !(*4#!
4 / : : \$++(!+#+!A\$33! , ((0!+ / !C(!1\$33(0!; * , 0!* , 6!)(3(9* , +!)(%+) \$4+\$ / , %! / , !0(' *)+ : (, +D!
0\$9\$%\$ / , D! * , 00 /)! * , S<1 /)!+#!2 ' 4 / : \$, -!%)9\$4(!')\$ / 0=!

H=! c*+(!@('+(: C)?!% / 3\$4\$+!(8(: '+\$ / , !)(B2(%+%1) / : !1*423+6=!

R=! c*+(!@('+(: C)?!@ / 3\$4\$+!') (1)(, 4(!%#((+% !E , ! (: *\$3!A\$33!C(!% (, +!+ / !*33!V57 . G(3\$ - \$C3(W!
1*423+6!* , , / 2 , 4\$, -!+#(!0*+(%!+#+!+#!') (1)(, 4(!%#((+!A\$33!C(! / ' (, D! * , 0!\$, 4320\$, -!
\$, %+)24+\$ / , %! / , !# / A!+ / !*44(%%!* , 0!4 / : ' 3(+(!+#! / , 3\$, (!1 /) : =!M)(1)(, 4(!%#((+% !A\$33!
\$, 4320(!* , 6! ') +\$, (, +!\$, 1 /) : *+\$ / , !*C / 2+!+%* , 0\$, -!4 / : : \$++(! : ((+\$, -!+\$: (%!* , 0!4 / 2)% (!
) (3(%% (%!+ / !#(3' !1*423+6! : *S(\$, 1 /) : (0!0(4\$%\$ / , %! *C / 2+!) * , S\$, -!E!% (' *) *+ (! (: *\$3!A\$33!C(!
% (, +!+ / !+#!(4 / # /)! / !1!1*423+6!A# / !*) (!)(B2\$)(0!+ / !%)9(\$, !+#!(1 /)+ #4 / : \$, -!%)9\$4(!')\$ / 0=!
& , 4(!+#!0(*03\$, (!#*% ! ' *% (OD!1*423+6!A# / !1*\$3!+ / !%2C : \$+! ') (1)(, 4(!%#((+% !A\$33!#*9(!
4 / : : \$++(!') (1)(, 4(!*2+ / : *+\$4*336!) * , S(0!\$, !4 / : : \$++(! /)0()=!!

T=! b(1 /)(!+#!02(GO*+(1 /)! ') (1)(, 4(!%#((+% D!57 . !A\$33! (: *\$3!+ / !+#!(1*423+6!*+!3(%%+! / , 4(!+#!(42)
(, +%3*+(! / 1!4* , 0\$0*+(% !1 /)!E" . !* , 0!M .

, /+\$1\$4*+\$ / , !/1!(*4#!%(' *)*(!3(4+\$ / , !%# /230!\$, 4320(!+#(!0*+(D!+#(!4/ : : \$++(! , * : (D!+#(! , * : (%!* , 0!0(' *)+ : (, +%! /1!+#(!3(4+(0!\$, 0\$9\$02*3%D!+#(!+ /+*3! , 2 : C!) /1!9 /+(%14*%+D!* , 0!+#(! +() : !/11%()9\$4(! /!)!(*4#!(3(4+(0!\$, 0\$9\$02*3=! "#(!57 . ! . #*\$)!A\$33!%(, 0!*!42 : 23*+\$9(!3\$%+! /1! +#!(3(4+\$ / , !)(%23+%!+ /!+#(!1*423+6!* , 0!+#(!P&50NMEE! /11\$4(! / , 4!(3(4+\$ / , %!#*9(C(, ! 4/ : '3+(0=!

j=! c*+(!X/9(: C()D!P(4(: C)?! . / : '3+(!' ' /\$, + : (, +%!+ /!' ' /\$, +(0!4/ : : \$++((%=" #(!57 . ! . #*\$)!A\$33!%(, 0!* , !* , , /2 , 4(: (, +! /1!* ' ' /\$, + : (, +%!+ /!+#(!1*423+6!* , 0!+ /!+#(!P&50NMEE! /11\$4(=!