







~~SECRET~~  
SECRETARÍA DE RELACIONES EXTERIORES

Presidenta



Secretario general

›™Štoe ‹•‡Cj”•o#™

Coordinadora general académica A” ‡ C•o#™~›^•‡™

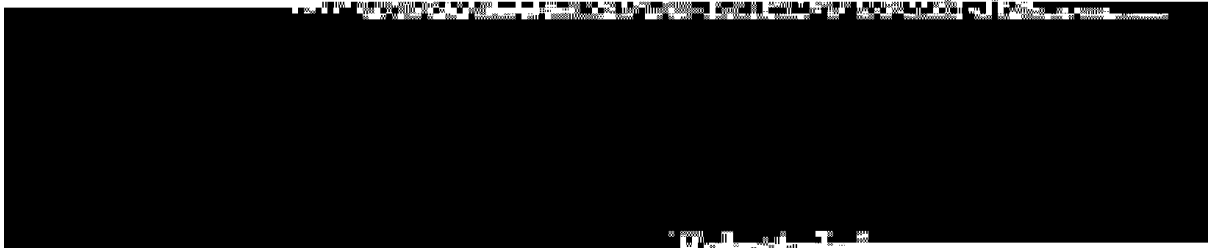
Secretario académico

P‡š~•%o S•’|™›š•d~›

Secretario administrativo  
AŠ•j” R) ^•• R‡”•<’

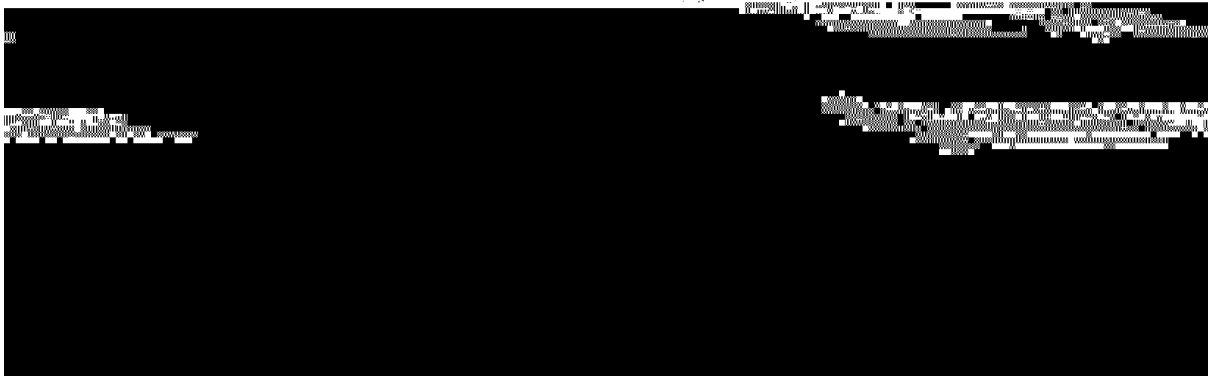


SECRETARÍA DE ECONOMÍA



SECRETARÍA DE ECONOMÍA

MEXICO





3257720733 = y  
E53

ne.cusis.vg...unidades 7...Ministerio de Educación...co...de...a/ia



>>> 52 0 52



! g

0 \$ 5& (/2 ( % \$ 5 '

$$*(7.4)^* *18.43^8 = 97.478$$

∴ <+09@\*64 79 5+, 9(35;,, 95\* <; 69] :<: 5;,, 9::, ?7,\*;(;0(: @\* <3<9]  
,: 3, :, 5\*Q +, 3 ;(9( +0734 m0( :r 56: 3 +06 \*65 ;6+( :, 90+(+ <56 +,  
3: 4 (, :; 9: 4 m 9: 7, ;(+6: +, 4 0., 5, 9\*05, 5, 3794, 9\* <96 +, , 3\*65, :  
5;, 95(\*65(3: , 5 3



(. 9+, A\*6 796<5+(4 , 5;, 769:< 5;, 9p: @+, +0(\*05 7(9 / (\*, 976:03 , ::,  
796@\*;6, 5;(5 \*696;04 76  
:04 04 6 +, ), 9 \*656\*, 9, , 3, 5;<:0::; ( 9:7(36 +, 3 63. 6 +, p?06 @  
, 5, :7, \*03+, :<79:0, 5;( 0-0 09 <3)  
0) 05, 3964 7, \*(), A: (38<, (3<+6(x5 56, ::m, 94 5(+6 564 , \*(), +<+(  
+, 8<, , 379:, 5;, , , ?;6 56: 7, 94 0!, 00-00"€D





3, 9(3, 5, ] +, +u5+, =, 504 6: (:r \*64 6 7(9 (5;07(9 +, (3<5( 4(5, 9  
 3: 9;6: @7<5;6: 4 m \*64 73(+6: , 5, ::( 5; , 5:( 93\*05) 0; , 93  
 <009 (. 9. (9<5 x304 6 \*64 , 5;(96 (+, 4 m +, 3: ; , 4 (: , :7, \*rY\*6: , 5 3  
 (., 5+( +, 3 93\*05 ) 0; , 93 3 4 0(+ ( ; 9=p +, 3 , ?7, 905\*0 +, 3:  
 , 4)(1+69: , ::(+<50+, 5:, : 7, 94 0, , =3(9 6; 9: \*(9\* , 9: ; 0(: 8<, /(5  
 605;(+6 , 39<4) 6 +, , ::( 93\*05 ( 7, 965(3(+ 7(90<39+, 3: (\*;69:  
 \*, 5; 93: ] 3: , 4)(1+69:] :< \*(9\* , 9: ; 0(: ] +, +u5+, =05, 5 , 3  
 +64 06 +, 3, :7(t 63 :< , ?7, 905\*0 5; , 95(\*65(379=0 , 5; 9 6; 96:] :<  
 93\*05 \*65 , 3. 6) 0956 -, +, 93, ::(+<50+, 5:, (:r \*64 6 :< \*(7(\*0(+ +, , 5, 9  
 <5( 3\* ; <9 79 \*0( +, 3 9(3(+ 4 , ?0(5( @+, 3 3. 0( +, 3 \*3: , 763; 0( +,  
 5<, ::; 96 7(r :65 ;63: 6

! " g

• ^ ( ~ š † † • • ) T M ~ ‘ † † ” • † • ’ • • • • † ~ † † † † † ! • ~ •

( 9 3 \* 0 5 , 5 ; 9 5 ( \* 6 5 , : = , \* 5 ( : , : 5 , = 0 ( ) 3 @ 9 7 9 : , 5 ; ( ( 4 , 5 < + 6 < 5 - ( \* ; 6 9  
\* 6 5 ; 0 < @ 5 ; , + , 3 6 : : ; ( + 6 : 5 ( \* 0 5 \* 6 5 < 5 ( ) ( 5 0 6 + , 0 4 7 3 ) ( \* 6 5 , : (   
9 3 \* 0 5 , 5 ; 9 p ? 0 6 @ : ; ( + 6 : " 5 0 6 : / ( : 0 6 / 0 ; u 9 0 ( 4 , 5 ; ,  
7 ( 9 0 < 3 9 4 , 5 ; , + , 5 : ( / , ; , 9 6 . p 5 , ( @ ; 9 : \* , 5 + , 5 ; , , / ( \* ( 9 \* ; , 9 0 ( + 6 3  
4 ( @ 9 ( + , 3 : = , \* , : 7 6 9 3 ( : 0 4 , ; 9 ( + , 7 6 + , 9 @ + , 9 \* < 9 6 : 5 , 4 ) ( 9 6 3  
+ 0 3 4 ( \* 0 / ( + , : , 4 7 , t ( + 6 < 5 7 ( 7 , 3 \* , 5 ; 9 3 7 ( 9 + ( 9 3 - 6 9 4 ( ( 3 9 3 \* 0 5  
( < 5 8 < , 5 6 / ( : 0 6 + , 4 ( 5 , 9 ( 3 < 5 ( < 5 = , / r \* < 3 6 , ? \* 3 : 0 6 4 x 3 0 3 : ( \* ; 6 9 :  
5 + 0 0 < ( 3 : @ \* 6 3 \* ; 0 6 : 7 9 6 7 6 : @ ( 1 5 6 : ] 3 : 5 ( \* 6 5 , : 5 + 0 : 3 : . 9 5 + , :  
7 6 ; , 5 \* 0 : , < 9 6 7 , ( : 3 : ( < ; 6 9 0 + å 9 • h y ö ð ã " 2 ( :

;6+6 (5u4 (3 @,5 ,::, :,5;06 76\*6 979:,5;(06 +,3 8</(\*,9 +, 3:  
+03 x)`Ó0

3: ,5;9:06: +, <5( 93\*05 8<, \*65:;0<@ <5( +, 3: =,\*5+(+,: 4 m  
\*64 73 1: +,34 <5+6 7693 ,...U rA, Ò

, ?7(5: 6504 6 +, 3 ,::; 56 (50Y,::;6 , 376+, 96 , \*65u4 06 @5(=(3) 90n506  
3 =635\*Q , 5 3 -965;, 9 3)(+( ( 3: \*699 9(: +, . 9<76: 5+r., 5(: (3() 0,(;6  
(3)(5+63904 6 (3\*65;9)(5+6 (35(9\*6;9nY\*6 @ (3;9nY\*6 +, 7, 9.65(: 3  
, =63\*05 , ?0(5( 3 4 0 9\*05 3: 4 , \*n50(: +, 3 <, 99 9( 3  
5;, . 9\*05 \*64 , 9\*Q 35694 (+ ( 769;9;( +6 3 \*667, 9\*05 , 5 :,. <99(+ @3  
+0734 (\*Q +0 0(3

5 : , 5; 0+6 (5m3.6 ,::;6: \*( :6: 56: 7, 94 0, 5 97(9 9, 5 3 04 769(5\*Q +, 3:  
, 5694 ,: \*(4) 6: , 5 3 5-9,::;9<\*;<9 +, \*64 <50(\*05 +, 5;96 +, 3 9 3\*05  
+0734 m0( 3 ;95:4 005 +, 4, 5:(1: +, \$ (: / 5. ;65 ( :<: , 5=Q+6: @  
, =5;<(34 , 5;, ( :<: \*65;97(9,:: , 5 3 0<+(+, p?06 500u 7694 , +6 +,  
) <8<, : +, =3 ;95:0u 769 3: +, =(769 @+, :7<p: 769 3: -, 99\*(993: 8<,  
\*65, \*;(965 ( 3: +6: 7(r,:: , 5 3: (t 6: 6\*/ , 5;( +, 3:0 3(5;, 7:(+6 :, / 06 ( ;  
;9=p +, 3: \*( ) 3: +, 3 ;, 3. 9- ( :<) 4 (95( +, 3 ;, 3-65r( +, 3 9( +0;(5\*Q ( ;  
7(90+, Y5(3: +, 3: (t 6: =, 5;, @+, 3: -(?: +, :+, 3: (t 6: 6\*/ , 5;( 7(9 +(9  
7(:6 (3 5;, 95;, , 5 3 x304 ( +p\*(+ ( +, 3:0 3 7:(+6 @ ( 3: 4, 5:(1: 769  
\$/ (: : 77 , 5 , 3 79:, 5;, ( + <5( +, ,:: (: ;, \*563. r(: +, ;95:769, @  
;95:4 005 4 (9\*)



\*64,9\*Q3: Y5(5\*Q96: @4 0 9;696: ( .,::05 +, 3: 9 79:,5;(5;,: ,5  
p?06 +,3.6) 0 956 ,:;( +<50+,5:, ,5;65\*,:( +,4 m +, +,:(/ 6.(9 3 (. ,5+(  
) 0 3;, 9 3 / ( 76+0+6 ;9 5:4 0 9 3 \*65=, 50 5\*Q @(\* 0 0)(9,3( 35,(4 0 5;6 ,5;9  
3: 9:7<,::(: +, (4) 6: 7(r,: 3(+6: +, 4 (5,9 0, ?69) 3 769 3 .,6. 9- (]  
( 3: (\*65;, \*0 0 5;6: 4 <5+Q 3: ::6 -<, =0+,5;, ,5 ,3\*( :6 +, 3: .<, 99:  
4 <5+Q 3: \*(<(5+6 ,59@ 3;\*/ ,9 +,:(\* 0 u ,390:. 6 +, <5 (\*,9\*(4 0 5;6  
,5;9 p?06 @,3 4 7,96 (3 4 n5 @ ,69, ,::,9 4 0/ \*669+0u 3  
\*667,9\*0 5) 0 3;, 9 3,5 ,3, :-<, 9 6 +, .<, 99 ,96 +, 4 (5,9 4 ,56: ,=0+,5;,  
;(4) 0 5 :, 4 (50,::;u ,5 3 ( 3 5 A ] 4 69 34 m 8<, +0 3 4 m 0 ( 6 4 0 0)(9  
,5;9 3: 79:0+,5;,: ,506 <n 9 A 560

∴6: ;, ?;6: ,5;65\*,: (5(3A5 3 / 0;690 +, 3 9 3\*05 p?06 ∴;(+6:  
" 50+6: ( ;9=p +, 4 64 ,5;6: (\*6;(+6: 7,9





!! ! g " ! %  
" ‡ • † > i ~ < ~ • - < ' ' •

6\*6: 4 ,. ,: (5; ,: +, 8<, ;<=0q 8<, 4 (9\*/(9, +, p?06 7697, ;005 +, 3  
.6)0956+, #0, 5;, <, 99 96 6, 3 65:, ^ (:, . <9u56;, 5, 93 4, 5690, ( +,  
7698<p, ?0;r( ;(3(504 (+, 90u5 /(\*0 p3 X 4, 56: ] +06] 8<, 4 0 Y94 ,:  
795\*006: 9, 7<) 3(56: @4 0; q; 6 (4 0; 6: 6 \*65 (3 <56: 4 0 4) 96: +, :; (\* (+6:  
+, 37(9, 0+6 767<3 97<, +(5 \*65: 0, 9 9, \*64 6; (3: Y^ <05, q 65:, ^ 69  
8<p :, 3 /()r( , 3. 0+6 794, 9 , 5=0P6

-64,5;(9 3: 93\*65,: (4 0;6:(: @,3\*64,9\*6 @769x304 6 8<, 6);<=09  
5-694 (\*0593=(5;, M  
35<.=6(.,5;,, :7, \*03+, :, 4)(9\*u,5 <,56: @

∴, ? , 5=0+( +, :+, 0+ , 3( 7(9 / 6:; 0(9( 3 9(34(95( 4 , 9(5;, -< ,  
+, :; 9<0( -95;, ( #(3(9 r.6 769 +6: -9.(; (: , 5, 4 0(: 3 8< , =0, 5\*0u , 3  
+64 56 ) 99n506 <, :; 96 \*u5: <3., 5, 9(3+, ) 0u 7(9, 9 +, 4 m 3: 5<, =:  
(<; 699(+, : \*/ 035P, v~ +

=r( +, (5;6 64 5.6 @ <,96 06 ,:,4)(9\*u,3IQ+, 6\*;<)9 @4 79,5+0  
 ,5:,.<0( ,339.6 @+0 \*0;9:3+6 /(\*Q 3 Q+(+ +, p?06 (+65+, 33.u  
 65\*, +r(: +,:7<p: ,94 (5,\*0u ,5 3 \*(70(3+6: :,4 (5(: @=00u 3 4 m  
 5; ,9:(5; , 7,96 ;(4) 05 :, ,5;9=0;u \*65 ,3,4 7,9+69 \*65 6:p (5<,3+,  
 ,999 ,34 50;96 +, ,3\*65,: 3: 4 0 4 )96: +,39\*05 +0<,36 \*65.9:6  
 =(96: (+=,9(96: +, ;<9 0+, ] \*64 6 69,5A6 +, '(=3 \*65 8<05 / 06  
 (4 0;(+)] @ 0<,3 (5;( (9( ,3,5=0+6 +, 5,.6\*6: +, 634 )Q<sup>10</sup>  
 <0(+6:6 6):,9(+69+, 3: :,9: / <4 (56: 3: 5:;0<\*65,: @3: \*6:;<4)9:  
 +, ;6+6 3\* <(39<50u()) <5+(5; , 5-694 (\*05 :, :5;0:6)9 \*6. 0+6 769,3. 9 5  
 \*65;9:;, ,5;9 X 4 (.50)\*,5\*Q +, 3: 96: @3 4 0,90 +,:\*(95(+ +, 3:  
 76)9:Y;(5;6 \*64 6 7693 -<,9, +, =6\*05 9 30 6:(<sup>1P</sup>  
 (:0+, 54 ,+0;6 ] +, /,\*/6 (7,5(: ,5 9:;( /(\*Q %437(] 65:,<sup>3</sup>  
 ,5,4 0 6 +, \* <(3<09-694 ( +, .6) 0 956 8<, 56 -<,9 3 9 7<) 3(5( +, \*3 9u  
 04 796)()) 3 8<, 3 5(\*05 4 ,?0(5( /<) 0 9 ,3. 0+6 <5 9. 04 ,5 +0;(;690 3@  
 ;<9 0+, X\*64 6 :0/<) 0:;, / ,9+(+6 3 \*695( @<=0 9 ,3+,9\*/6 3.r,04 6 +,  
 6794 0( :<: :x)+06:Y<sup>1Q</sup> 3,4 7,9+69 3 9\*0 0u \*65 \*0 9(-90 3(+ ,3K+,  
 56=04)9 ,5 :< +0\* <96 (3)u ( :;(+6: " 50+6: @<: 5:;0<\*65,: 7,96  
 X 4 ,5;u 8<, 56 -<,9 5 (+, \* <(+(: 7(9 3: \*0\* <5:;(5\*Q: +, :< 7(r:Y<sup>JH</sup> :;6  
 +;)0u ,5-(+(9( 65:,<sup>3</sup> 8<05 ( 3 4 (3 \*(3)\*(\*05 8<, @ 3 /())r( 6;69 (+6  
 (.9.u 3 +, 8<, 3 7(9\*



/, 95\*0 3. r; 04 ( 8<, +,) r(5 9: . <(9+(9  
4 79,5+0u, 39. 9:6, 311 +, 56=04) 9 #01u( <, 9p;(96 <(5(1(;6 @ (5  
<0 6;6:r +, +65+, (=5Au/( \*0 ,3 636+, p?06 79 \*0u3 /6:70(3)+( + @  
, 3(-, \*;6 +, 3 76) 3 \*0u5 ,5; , 9 , 5 7(90<3 9+, 3 9<9 3 7, 96 , 5 ;6+(: 7(9, :  
, 5\*65;9u <5 . 9 5 +, : \*65; , 5;6 X 6+6 / 64 ) 9 \*65 8<05 / , \*65=, 9(+6 , ?79:(  
8<, () 699 \* , , 3+, :76;04 6 , 190+6 769, 3, 4 7, 9+69Y 3IM+, +004) 9 (99) u  
( ! (4 706 +65+, () 69+u <5 5(=6 8<, 36 3= u ( < ) ( 8<r 7, 94 (5, \*0u <56:  
+r(: (5; , : +, 9;695(9( :;(+6: " 50+6: JL , . 9: 90°Y

" " " > < œ Š < T S " •

( : 6979



.<, 99 +, 5+, 7, 5+, 5\*Q :< 7(r / ())r( X3, 9 (+6 3: :, 5; 04 05; 6: 4 m \*n3+6:  
@ 3: 4 (@9: :04 7(;r(:Y /(\*Q 3: 9), 3+, : @ 3: /())r( 6;69(+6 , 3  
9\*656\*04 05;6 ;(5 7965;6 \*64 6 3 -<, 76:03 ( +,-, 5+, 9 , 379::;0 6 +,  
:;( +6: " 50+6: -95;, (3+, 95 9;(t( ( , ?(3(93 =0<+, : +, :<. 6) 0956  
9,7<) 3(56 -, +, 93 @+, 4 6\*9m06 ] \*<(5+6 , 5 p?06 7(9, +, 3 p3), :,  
5\*35() ( 7693 4 65(98<r] @ , ?73(93: 0+, (3: +, 34 , 5:(1 +, 6596,  
65:, ^3 ;64 (9( 4 <@, 5 :, 96 ;6+6 3 (5;, 969 :., .<96 +, 8<, 3: 5(\*65, :  
/ 006 # ,

+, : \* < ) 99 ( 4 < @ 7 9 5 ; 6 8 < , 5 6 3 , 9 - m \* 3 ; 9 ; ( 9 \* 6 5 3 - ( \* \* 0 5 . 6 ) , 9 5 ( 5 ; , , 5 : <  
6 7 5 0 5 - 6 9 4 ( + ( 7 6 9 4 6 5 n 8 < 0 6 : ( 9 0 ; u \* 9 ; ( : \* 3 9 0 6 : @ 4 ( @ 9 0 ; ( : , : 7 ( t 6 3 :  
8 < , + , : \* 6 5 Y ( ) ( 5 + , 3 : 6 ) , 9 5 r ( 7 6 7 < 3 9 , 3 3 ) 9 \* 6 4 , 9 \* 6 , 3 4 , 5 : ( 1 + ,  
6 5 9 6 , @ < 7 9 6 7 0 7 , 9 6 5 ( , - , 5 + r ( 5 < 5 . 6 ) 0 9 5 6 , < 9 6 7 , 0 4 5 ; , @ \* , 5 ; 9 3 ) ; ( @  
7 , 5 : ( ) ( 5 , 5 5 . 3 ; , 9 9 \* 6 4 6 \* 6 5 ; 9 7 , : 6 ( 3 6 : + , : 0 5 6 : + , 3 = , \* 5 6 + , 3 5 6 9 ,

9\*096\*0(+Y ,:, ( :<,4

:03 žoc• Ÿ,3: (3735 +, .

+0\* <: 0:5 6 -<, (:r @7



,54 (96+, IRJO 3 @5 5:;9 @7(9 8



:<\*(5+0(;6:6)9 3 +, u4

, ::(+6: +, 3 -, +, 9\*05 B C 3\*34 69 B C/ ( 3. (+6 / 6@ ( ., 5, 93A9,

" 50+6: @ p?06 56 -<, 965 5(+ ( 79670\*Q: 69, 33+6 +, 3=, \*56 +, 3569, , 3  
(5:Q +, ;099: 3 :<:70(\*Q -95,, ( 3: 79,, 5:65,: +, 95 9;(t( @3  
+, :4, +0( \*, 9, A , 5 3 :<7, 9690(+ +, :<: 5:;0<\*65,: ] 3), 93:  
9,7<) 37(5(: +, 4 6\*9m0(:] (5<5\*Q)(5:<+, :, 6+, 04 765, 9, :6) 9, 3=, \*56  
+, 3:<9 69, 33+6+, p:, 3 +<+( (5:, 3:(4) 065,: 763;0(: @, 9996903: +,  
36: ,:;( +<50+, 5:,: 36: (;(8<,: +, 36: Y3) <:, 96: 3 5\*, 90<4) 9 (5:, , 3  
4, 5:(1 +, 6596, @3 ;(9+(5A , 5, 5=Q 9<5 9 79.:, 5;(5:, 796=6\*() (5 <5(  
(\*;0<+ +, 9 \*/ (A6 8<, :, 4 (50, :;u+, :+, 36: 7904, 96: ;04 76:  
( +, :05(\*05 +, 65:, <sup>3</sup> \*64 6 7904, 9, 5=Q +6, ?, 9 69+5(96 @4 50;96  
735076;, 5\*Q 96+, :;(+6: " 50+6: 56 -(=69 \*0 3: , ?7, \*;(;0(: , :, 90:, 6

,?7,905\*Q+, 605:,3,5 r6+,3 3;( =p(:, †'†Š• 157.2\*7&\*39

O —ÿ 4\*17 LJ >„š<™ ‡~<™ 438™7 LK •Š~!•>< &.3)\*5\*3)\*3(& (q 3 ,?7,905\*Q+, 605:,3,5 /Q =p(:, •'•~ @<'~ ~> &57.2\*7&

P —ÿ 4\*177 LJLO >„š<™ ‡~<™ 438™77 LL LN •Š~!•>< &.3)\*5\*3)\*3(& (~'•™ - \* 78943 77 INNINP 6

Q —ÿ 4\*177 LQMN >„š<™ ‡~<™ 438™77 LMLN •Š~!•>< &.3)\*5\*3)\*3(&

IH —ÿ 4\*177 MIM >„š<™ ‡~<™ 438™77 LL LN •Š~!•>< &.3)\*5\*3)\*3(& (~'•™ - \* 78943 77 ILHILJ

II —ÿ 4\*177 MIM >„š<™ ‡~<™ 438™7 LN

IJ —ÿ 4\*177 OHP “šŽ X 605:,3 W 7 Q >„š<™ ‡~<™ 438™7 NH

IK —ÿ 4\*177 MNP >„š<™ ‡~<™ 438™77 LOLP

IL >„š<™ ‡~<™ 438™77 PJFN' ††† 384 =63 | 7 IH ~š<•† @ <Š~† = (4 '•~<™ 1974 4 77 JQFN •Š~!•>< X6,3

IM 49843 \*= (4 2 8) \* .39 \* : 9 2 3 4 + EFF:, 7<) 3 u 7697904, q =, A, 5 IPJL \*65, 3:<); r;<3 +, 47: 3 (.:) 8) 834) \* 148 88) 48" 50+6: 03936, +Qu, 5 65+q: , 5 IPJM, :; ( = A \*65, 3564 ) q +, 3 (<: 69 7(9 \*Qu, 5 p?06 \*64 6 48884 7 = (4 DPJJE769, +069Q 3 <: , 5 IQMH >„š<™ ‡~<™ 438™7 FL 56; ( K

IN 0(+6,5 —ÿ 4\*17 QH

IO 0(+6,5 —ÿ 4\*177 QHQM >„š<™ ‡~<™ 438™77 FMPQ

IP ••™šš 498 77 LPFO@JJ —ÿ 4\*177 QMN

IQ ••™šš 498 77 JJ@LN —ÿ 4\*17 Q “šŽ X 605:,3 W 7 Q >„š<™ ‡~<™ 438™77 FMQ

JH ••™šš 498 7 ND

JL ••™šš 498 7 OLee

JO ●Ÿ 4\*1 77 IHMIHN › ‹” Š ‹™

LN 65:,<sup>3</sup> ( 3@ p?06 K +, 4 (@ +, IPJN, 5 •T%Ž 4(: 2\*398 =63 I 77 PH •—ÿ 4\*1 77 IIM  
I|N|J|I > <” š<™ ‡~<™ 438™77 IHOIHQ ‡“ ‡~ X, 5,:0Y77 IH IHM

LO 65:,<sup>3</sup> ( 3@JO+, 1<36+, IPJM, 5 •T%Ž 4(: 2\*398 =63 I 77 PPRQ •—ÿ 4\*1 7 IIL > <” š<™  
‡~<™ 438™77 IHHIK ‡“ ‡~ X, 5,:0Y77 IH IHP

LP 65:,<sup>3</sup> ( 3@M+, (.6;6+, IPJM, 5 •T%Ž 4(: 2\*398 =63 I 77 QJ QM ‡~<™ 438™7  
IFM

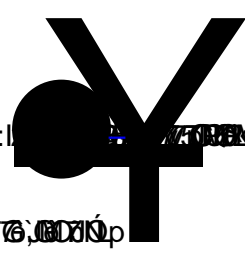
LQ 65:,<sup>3</sup> ( 3@JO+, 1<36+, IPJM, 5 •T%Ž 4(: 2\*398 =63 I 77 PPRQ > <” š<™ ‡~<™ 438™7  
IFN

NH •—ÿ 4\*1 77 IIK

M 65:,<sup>3</sup> ( 3@IH+, 4 (9%6+, IPJQ, 5 •T%Ž 74(: I •—ÿ 4\*1 77 IIM •—ÿ 4\*1 77 IIM  
7 IFN

M •—ÿ - \* 3.9) 7 N •—ÿ 4\*1 77 IIM •—ÿ 4\*1 77 IIM

NK 65:,<sup>3</sup> ( # (5 F f `Ù...5 G <





› ‹” š ‹™ ‡ ‹™ 4.38™77 IFOIQH %ž“ •šš ‰(4 7 M

**N**#(5 <9.5 ( 60. ; 3 \$ (: / 0. ; 65 JM+, (. 6. ; 6+, IRJQ, 5 •™ž 4( : 2 \*398 =63 | 77 JLNJLQ •—Ÿ  
4\*177 IIL IIM › ‹” š ‹™ ‡ ‹™ 4.38™7 IQK %ž“ •šš ‰(4 7 M

**N** 0(+6,5 •™ž' • ‹ &57.0•0€

0x.....

! ! -!

9

“ÿ ~<<”^<•

!(3=A,3;9;(+6 4 m 04 769(5;,, 5 3 / 0;690 +, 69,(4 p00( :, ( , 3! 9;( +6  
+, <(+3<7, 0+(36 8<, 7<:6 Y5 ( 3 .<, 99 , 5;9 p?06 @ ::(+6: " 50+6:  
\*65 , 3;9:7(:6+, \*( :03 4 0(++ , 3;, 9906906 4 , ?0(56( :<=, \*56+, 3569, 69  
4 m ;9m0( 8<, /(@ :0+6 3 7p9+0( 7(9 p?06 3 \*, :0u5 ;, 9906903 -<,  
\*65:0+, 9) 34 , 5;, 4 , 569 8<, 3 8<, (5/ , 3)( , 379:0+, 5;, , ::(+<50+, 5:,  
(4 , : 63 <, p?06 56: / (@ =0;6 6) 3(+6 ( \*, +, 9;(4) 05 (1  
(36950 @ 8<0m 6569 @ 70 < / < -<, 9:<3(+6 , 5) <, 5(4 , +0( +, 3:  
, : \*9<7<3: @3 / 6569) 3 +, \*00u5 +, 0/ 63: ! 90; ] , 5=0+6 +, 3.6) 0956  
, ::(+<50+, 5:, 7(9 5, .6\*09 3 7(A] +, \*65;5<(9 5, .6\*05+6 \*65 :<:  
5;, 96\* <; 69: 4 , ?0(56: +, :7<p: +, 8<, , 379:0+, 5;, 63 69+, 5u:<9;06 (   
+ \*00u5 : 5 79\* , +, 5;, 8<, ;64 u! 90; +, +, : (ÿ(9< :< 79:0+, 5;, 7, 94 00u  
\*65;5<(9 3: '5, .6\*0 \*65, : 8<, ;9 1, 965 3 7(A ( p?06 (73 \*u 3 \*9 \*05;,   
4 6=00A \*0u5 8<, , 5 ::(+6: " 50+6: , ?0 r( 3 (5, ?0u5 +, X6+6 p?06Y\*64 6  
) 6;r5 +, . <, 99 @+, ::9<@:< \*(99 9 +0734 m0(  
0/ 63: ! 90; 56 7(9\*r( <5 9), 3+, 5 IFLO, 9 , 3-<5\*65(906 +, 4 ( @9  
95.6 , 5 , 3+, 7(9(4 , 5;6 +, ::(+6 @7, 9, 5, \*r( ( 3 4 m (3( (3<950 +, 3  
(90+6 , 4 u\*9;( +, ::(+6: " 50+6: !, 5r( <5( 9 3 \*0u5 7, 9.65(34 <@, 9\*(5(  
\*65 +6: +, 3: 7.



5 7,9+,9;04 76 63 69+,5u ( <\*/(5(5 8<, 3 79,.;5;(9 ( ! 90; 9  
:m)(+6,5 3 ;(9+, 7,96,3-<5\*65(96,.;)(;9)(15+6 +<96,5 :<,.\*906

, ::(+<50, 5:, +, 1965 (37(r: (3) 69+, +, 3\*63 7:6 763;06 ( +, 996;( 4 06)(9, 5  
, 3 \*69 Au5 +, p?06 , 5., 5+9u <5 6+0 +0

3 . <, 99 °

6: 5, . 6\*0+69: :, 9 <50965 , 3l @, 3J +, :, 7;04 )9 <58<, 7(9 \*r( 56  
/ ( ), 9( \* <, 9+6 76: 0 3 , 5;9 3: +6: 76: 0 65, : ;6+6: 36: \*64 0 65(+6: 8<, 9(5  
3 7(A @5, . 6\*0 965 +, ) <, 5( -, ,

3M+, :, 7;04)9 \*6³ 69+, 5u ( :<: 6Y\*Q3: , 5;99, 5 ) (;(3 @5<, =, +r(:  
 +, :7<p: 0(965 3 ) (5+, 9 +, 3: ) (99: @3: , :;933: , 5 3 0<+(+, +, p?06  
 <58<, , 379:0+, 5;, 632 :<7<:6 8<, 3 \*658<0;( +, 3 \*(70(34, ?0(5(  
 :050Y\*( ) ( 3 =0;690 p?06 :, 5, .u ( 95+0, (: ;967(: +, \*6³  
 , 4 79, 5+0965 3 39 ( 6\*<7(\*05 8<, /0A6 76\*6 7(9 .(5(9, 3\*69 Au5 @3  
 \*65:0+, 9\*05 +, 36: 4, ?0(56: 6: =63<5;(96: ) 699\*/ 6: \*65 (36/ 6396)(+6  
 =63965 4 <1, 9: @(:, :5(965 \*0-3: +, :(94 (+6: @;6+6: 36: +r(: /()r(  
 :63+(+6: (:, :5(+6: 6: 95\*/ , 96: -694 (965 ) (5+(+ +, .<, 993, 96: 8<,  
 (;(\* (965 :5 70+(+ ( 36: / 64) 9: +, \*6³ 6936 4, 56: =, 5;05\*6 \*699, 6: (  
 \*()) (36 8<, ;9:(965 +, ;95:4 003: 56;00: +, 3\*, 5;96 +, p?06 ( #, 9\*9<A  
 -<, 965 \*(7;<9(+6: @4 <, 96: / , 99+6: 6;69<9(+6: 7693: .<, 993: 4, ?0(5(: "

379:0+, 5;, ] (30<(38<, 6;96: , ?7(5:0650;(:] (3 =, 9 -9<;9+( :<:  
 , :7, 95A: +, Y94 (9 970+(4, 5;, <5 ;9:(+6 +, :(963, 4 m :< (7, ;06 769  
 p?06 905(34, 5;, /()r( 69+, 5(+6 (! 90; \*65-694 (9, \*64 6 4 r504 6 \*65  
 3 -965;, 9 , 5, 3 9=6 @3 (+8<0005+, (36950 @ < , =6 p?06 , 96 (/ 69  
 04 (.5()) (<5( 6569 , :;(+<50+, 5:, <5( (1 (36950 , :

3 35, ( +, 3 099 ( +9 :, 9( -m3+, +, -, 5+, 9 \*65 7, 8<, t (: . <(95065, :, 5  
65:, 99 @ (3036 65\*3=( 5(9: #0;690 @ (4 706 < 9 \*64 , 5+(\*05  
3 7(9 \*0i :, 5:( ; ( (379:0+, 5;, @ 9 5\*3: 6 \*65:, 9(+69 , 5 \*64 7(9 \*05 \*65  
3: 67565, : +, (3 <56: +, 3: 4 04)96: +, : < .() 5,;, 6: +, , 36:  
9 \*64 , 5+()



p?06Y<sup>IP</sup>

!(5:u3<5(::,4(5(:(5;,:+, ,5;,99, +, 8<, :, /())r( 69+,5(+6:<9.9:6  
3: 7,97,\*;0(::6)9 3 5,.6\*0\*05,47,A(95( 4, 699 35

X <n3, : 4 0+, ), 9 7(9 \*65 4 0.6) 0956 @4 07(r: , 5 3 , ?;9 69+ 0



Y5 +, 4 ,: (5<, 3' (4 69 \*64 (5+(5;, +, 3 <(9+0 (\*65(3 (+=0,0i (  
<5 4 04 )96+, 3

4, ?0(56: 8<, 7,94(5,\*095 ,5 3: ;,9906906: \*,+0+6: (+,4 m +, 8<, 4(5;<=09 ,369+,5 ,5;9 3: 5+6: !90; ,;<=6 +, (\*<,9+6 \*65 ;6+(: ,;(: ,?0,5\*Q: @565:0;u,5 3: +,9\*/6: +, ;95:06769,3 :;4 6+, !,/<(5;,7,\* 3;9A6,?(\*/6+, 3 -955;,9 ,9 ,34 (@96):;m<3 (4)(: 7(9,: 8<,9(5 (5 0.6 @ (:6 +,3 69,0P\*:(34,5;, 3 (:6E 4 05;9: 8<, 3: ,;:(+6: +, 6569 @ /0-6/77\*60/PB5\*:(955 ,5 \*65;9 +, 8<, :, \*,+095 ;,9906906: :0@: (9 ,3.8)0956+, 63 D@6: ,4 79:(906: ,;:(+<50+,5,: 5;,9:(+6: ,5 ,3\*64 ,9\*6 \*65 :QE3: 7<,96: +, (5 95\*0\*6 @ (5 0.6,953: 6@: +, (36950 (5 0.656,9 5,.6\*Q)3 k67(7 ,9yM/B+, , , (: +0 \*Q: 5,.6\*Q\*65,: :0<0955 ( 3 396+, ,5,96 <(5+6 7(9 \*r( 8<, /()r(5 3.(+6 (<5 (\*<,9+6 ,3.6)0956 +, , 3 ,t( @ ,t( ,?0u 8<, :, 9:0953: ;97(: ,;:(+<50+,5,: @7'5t Ó€

! 90; 56\*, +0u 6: ;p94 056: +, 3;9;(+6+, <(+37, 0+(36:, (35,())(5+,  
4 (5, 9 \*, 9\*(5( \*65 3 8<, 632 / ())r( , :7, \*0\*(+6 , 5 :< +6\* <4 , 5;6 690 0(3  
\*65 3 , ?\*, 7\*0u5 +, 3/ , \*/ 6+, 8<, p?06 \*65:, 9=u (1 (36950 ! 90; -<, 3  
:<Y\*05;, 4 , 5;, (:;<6 7(9 (<690(9 <5 7(. 6 +, IM4 0365, : +, +u3 9: 769  
8<0505;(: =, 05;05\*6 4 034 033: \* <(+9(+(: +, ;, 9906906 4 , ?0(56 \* <(5+6 632  
/ (X)0NTS666X4 m?04 6 +, JH4 0365, : ;(+6: " 50+6: (\*, 7;u 9 \*656\*, 9 3:  
\*65\*, :05, : +, ;099( 4 , ?0(5(: @3: +, 9\*/ 6: +, 79670(+ +, 5 3: ;, 9906906:  
(5, ?(+6: 796=, 9( :<: / ())0(5;, : \*65 <5( 9<;( / (\*0 3 \*0<+(+(5r( @9-95(9  
3: \*699 9(: +, 3: ;90 <: 0+0(: :6) 9 3 -965;, 9 (<58<, 56 \* <4 739( 50. <5(  
+, ,,: (: ;9: 7964 , (: p?06 9 5<5\*0u ( \* <(3<09 +, 9\*/ 6 :6) 9 !, ?(: @  
9 \*656\*0u (396 9 =6 \*64 6 3 -965;, 9 , 5;9 p?06 @ ;(+6: " 50+6: 5 <5  
, :;<+06 , ?9 4 (+4 , 5;, \*9;06+, 3 +0734 (\*0 , :;(+<50+, 5 : , 5 3 +p\*(+ ( +,  
IRLH (=0+ 3;\*/ , 9 (3)u 3: , :-<, 9A6: +, ! 90; @3: +0734 m,06:  
4 , ?0(56: X3! 9;(+6 <(+37, 0+(36 9 :<3u +, <5( \*64 ) 0(\*0u5 +,  
(2)0+69071 9 p06 @\*6, 9\*0u5 @, 5 \*(:0;6+6: 3: (:7, \*;6: 4 , 9\*, <5  
9 \*656\*04 05;6( ;6+6: 3: 0=63\*9+6: Y<sup>K</sup>  
6 -<, , 3;9;(+6 4 m ., 5, 96:6 8<, ! 90; / <) 09 76+0+6 5, .6\*09 7, 96 , 9  
8<0Am, 34 m ., 5, 96:6 8<, ;(+6: " 50+6: , :;())( +07<, :;6 ( (\*, 7;(9 ! 90;  
, 0\*99(00(3.6) 0956 4 , ?0(56 X ;(+6: " 50+6: 6-9\*, 7(A:, .x5 3: ;p94 056:  
+56; 9;(+6 @56 : , , \*

Ex C7, 9+, 93: +6: 796=5\*Q: +, <, =6 p?06

IH •'“ .&7> =63 77 0N00100 JND ~<<"^<~• " .(0\*) " &7 77 JIPJH 3<56: ,;:<+0



KH %o< •>~< X 4 0 6: @ (31 +6: Y77 INKJKH ••†™ ‡~%Š <“ ‡™ 43 48\_ \*73&7)4 4: 9! 7 IM  
•os™ -\* 3.9) 998&3) \*= (4 =63 7 NJ ' <š%ž<~ -\* .512 &> 77 NLI NIK! <~~ ‡ ‡™Ÿ  
‡™Ÿ” š< @ >~ ‡ ‡o†' ' < 887\*18(.43\*8 =63 77 JNL JNM

K ••†™ ‡~%Š <“ ‡™ 43 48\_ \*73&7)4 4: 9! 77 IMKH ' •~•' ‡ .897.& =63 77 JINJIO  
' <š%ž<~ -\* .512 &> 77 NLL NLP! <~~ ‡ ‡™Ÿ ‡™Ÿ” š< @ >~ ‡ ‡o†' ' < 887\*18(.43\*8 =63 77  
JNL JNM

KI ' <š%ž<~

& # "  
85&.485&7&: 3&Q.5142 &(.&)\* 1&&3\*=b3R &,\*89b3)\* &2 \*8 &) 8 \*3 \*3 =(4  
@LGEIJA

‡~%' ‡! <~‡ ‡™ ‡™



35Au:6) 9 p3(76@+6769-<, 9A(: =63<5;(90: @4 000: +, :<, 5;0(+ 796=6\*u  
<5( , 5694 , ;, 5:0u5 , 5;9 \$ (:/ 05.;65 @3 0<(+ +, p?06<sup>Q</sup> , 4(5, 9  
(+005(3 3: +0<sup>Y</sup>\*<3(+, : :<9 0(+ : , 5 , 34 64 , 5;6 +, Y10

+, (+:+,5 8<05 -<5+(4,5;(34,5;, 7<.5() ( 769 3 5+,7,5+,5\*0  
,\*65u4 0\*(+,3 <99:7,\*;6+,3 69, b:;( :, 36.99( 7,5:() ( 7964 6=05+63  
5;,.9\*05 @,3\*9\*04 05;6 +, 3 9+ -p99( :<9t( 7(9 3)(93 9.05 \*65  
<967( @,;:;)3\*05+6 ,3-,99\*(993 8<, 3 \*65,\*;(9 \*65 ,3 (\*rY\*6 !(3:  
\*65=0\*065,: 9:<3() (5 \*65.9<,5;,: \*65 :<: 0+,(: (5,?0650;(: :,\*,:0650;(: @  
,:\*3=0;(: (.,;:;05 8<, 9(3Au ,5 p?06 -<, 6\*(:05 7(9 04 7<3(9,;:;6:  
796@\*;6:

(+:+,5 9\*0 0u ,3 564)9(4 05;6 +, ,5=0+6 ,?;9 69+5(906 @4 50;96  
735076; ,5\*0 906 ,3IJ+, 4 (@+, I FVK<sup>IK</sup> (: 5;:9<\*\*065,: +,3+,7(9(4,5;6 +,  
;:(+6 3 +,4(5+(965 6\*<7(9, +, \*(<;96 (:<5;6: \*,5;93: 796\*<99 3  
5;:9<4,5;(\*05 +, 4,+0+(: 7(9 4, 169 93 93\*05 \*64,9\*03,5;9 36: +6:  
7(r,: 6);,5,9 ,3 (99.36 +, 3: 9\*34(\*065,: +, 36: \*0+((+56:  
;:;( +<50+,5,: @796765,9 3 4 6+0\*( \*05 +, 3 -965; ,9 Y15+63 :6)9 68

4,4 690: ;9;(+6: 79=04,5;, \*65=,50+6: ,5;9 36: +6: 7(r,: @\*65 6;9:  
5(\*65,: (:r \*64 6 +, 5-694 (\*05 (\*,9\*( +, 36: (:<5;6: :6)9 36: 8<,  
5,.6\*09( ,96 ,39,79:,5;(5;, =,5r( @ \*65 <5 7967u:06 \*396 (4 7319,3  
;,9906906 ,:;( +<50+,5:, , ,5;05+, (:r 8<, +,:+, -,\*/( 4 <@,4 795( (5,,:  
+, :(39( :<+,,:56 ,?7<:09 (3:, \*9;(906+, :;(+6:<0+, (6+

-<, 9A( 4 00)(9,5,3 r6 q=6 @4,:73.(93:)(99: @3: ,:;9 3: ,5 3: 7<,96:  
 4 ,?0(56: 7(90<394 ,5; , ,5,36\*p(56 (\*rY\*6Y<sup>JL</sup> ( 79:,5\*Q +, <5( -<,9A  
 4 00)(9 4 6+,q+( ,5 3 A65( -965;,90A :<.09 8<, 3 9\*64 ,5+(\*0u5 -<,  
 (;,5+0+( 769 3 (:( 35\*( (<58<, ,:( 79:,5\*Q 56 :050Y\*(q 8<, 09,  
 ;<=09 6;967967u:068<, 05;04 0+(9( (5;( 55(<sup>JM</sup>  
 5 3 3.(\*0u5 <5 )<,5 5x4,96 +, 9\*34(\*065,: +, \*0<+(+(56:  
 ,:;(+(<50+,5: ,5 \*65;q +,3 .6)0956 +, p?06 ,:7,9u 3 33.(+( +,3  
 735076;5\*Q906 \*65 3 ,?7,\*;(;0( +, 8<, 3: .,;065(q .<(9+(965  
 (:04 04 6 5<4 ,96:(: 8<, 1: +,3 .6)0956 4 ,?0(56 769 3: +,79+(\*065,:  
 05+Q: 5 <5(: @6;q: /()r( 1k:;6: 9\*34 6: @+,4 (5+(: ,?(),q+(:( 4)(:  
 :,9r(5 ;(4) 0p5 \*64 6 7(35\*( 7(q 79:065(9769<5 (\*<,9+6 4 m =,5:( 16:6 6  
 4 ,56: 0\*65=,505; , ,.x5 -<,q ,3\*(:(6 (+:+,5 :0 ,4)(9 6 : ,\*65\*,5;9u  
 ,5 ,3(1k:, +, 3 -965;,q @+,:+, 3 7904 ,q ,5;9=0:( :6:,50+( \*65 (5:(  
 55( ,3JM+, ,:7;04)q +, IFNK ;q;u+, \*65=,5\*,96 +, 3 =,5:(1 +, \*,+,9<5  
 (4 736 ;,9906906 7(q (\*())9 \*65 ,3 796)34 ( -965;,90A6 @765,9 Y5 ( 3:  
 05;,979;(\*065,: \*65;q+0;690: +, 3: (9r\*<3: # # @% +,3;q;(+6 +,3J +,  
 -,)9 96<sup>JN</sup> " 56: +r(: (5; ,: ,5 ,3,5\*<,5;96 \*65 ,3:,\*9;(906 +, ,3\*065,:  
 ?;,9069: ,3,;:(+<50+,5: ,+,\*656\*0u 3: 6)30(\*065,: 04 7<,;:( (:<7(r: 769  
 3 \*3r:<3 +,\*04 67904 ,q +,3! q;(+6 +, <+(3<7, 0(36<sup>JO</sup> (5, .6\*Q\*0u5  
 +, <5 (\*<,9+6 : , (5<5\*Q)( +0 \*0 @\*605\*0u \*65 3 33.(+( +,3Y3)<:,96  
 \$ 0004 \$ (32,9( (1 (306950 368<, ;,5:(9( ,3(4)05; ,

‡ " <••%#%#% Š > " " > <œ š~ †š†Š

4 7,96 4 m 7,9<9)(+6q 9:<3u 3 4 00u5 :,\*9;( +,3 (.,5; , ,:7,\*Q3  
 /90;67/,9\$(9+ 8<059\*Q 0u u9+,5: +, 4,4 690A9@q5:4 00( (+:+,5  
 =,9)(34 ,5; , 5<,( : 05;9<\*\*065,: :6)q ,3;q;(+6 ( 5, .6\*Q9\*65 ,3.6)0956  
 4 ,?0(56<sup>JP</sup> 3 796)34 ( 9:0r( ,5 8<, \$ (9+ ,q .,;:69 @\*65:,196 +, 3  
 ,4 79:( +, ,; ,9 (9 6<: 3! ,/ <(5; ,7,\* (006(+ 64 7(5@8<, 9\*34 ( )(  
 3 \*65\*, :0u5 7(q \*65;9<0<5( =( 769! ,/ <(5; ,7,\*<sup>JQ</sup> 36 8<, 979:,5;()(<5  
 \*65 0;6 +, 05;,9p: 7(q :<4 00u5 ,:+, :<(990 6<sup>KH</sup> , 050u <5( 3\*/( 769  
 +, Y50:0 (+:+,5] 04 7<369+, 3 (5, ?0u5 +, <5; ,9906906 ,?;, 5:6 @7964 6;69  
 +,3-,996\*(9903;q5:\*65;05,5:(3769,3:<9] 6\$(9+ ] 7,965,96 +, 3 \*64 7(tr  
 +, (9 6<: 8<, 9\*34 ( ) ( 3 \*65\*, :0u5 ,5 ,3 0;4 6 6 <5( =,5:( 16:(  
 05+,4 50A(\*0u5 7(q 3 ,4 79:( ] +,; ,94 05(9( ,39<4)6 +, 3 5, .6\*Q\*0u5 (   
 69+,5 +,3:,\*9;(906 +, ;:(+6 ;q5:4 00+( ( ;q=p: +, \$ (9+ ,q 796\*<9 9 3  
 (+8<00\*0u5 +, ;,9906906 7(q 3 \*(<3 735;,u +0,9(: 67\*065,: \*65 3  
 \*64 7,5:(\*0u5 9:7,\*;0( +,:+, 3 \*, :0u5 +, !(4 (<37:( ( (1 (306950 769NH



4 0365, : +, +u3 9: / (: ; ( , 3 ; 9 : 7 (: 6 +, 3 ; , 990696 5+07, 5: ( ) 3 7( 9 , 3  
-, 996\*( 993 D( , : 03 E 769 IM 4 0365, : <sup>K</sup>

\*Q+(+(56: \*65;9 3 (+4 50;9 \*05 4 ,

;, 9, 9 7(9, :0) 05 +04 5<@ 3 \*64 7, 5:( \*05 +, ,

:<:7,5+0q +, 56(,5+,9, :<:<,95\*q ] (.9.u(4,5(A5;,] : ,9(+0 \*B  
X4 (5;,5,93 (94 65r( ,5 3 \*6:(Y<sup>LO</sup> (+:+,5 (x5 :B :()),93 76:0u5 +, :<  
.6)0956 :, (996.u,3+,9\*/6+, +,\*0+9\*<n5+6 6\*<n5+6 56 :, +,)r(9:7,;(9  
<5 )38<,6 \*<n5+6 \*65=,5r( 4 (5;,5,9( <5 .6)0956 ,5 ,376+,9 6 ,5 8<p  
4 64 ,5;6:, +,)r(5-( \*B)(9( :<: ,5,4 06: B: 4 ,+B: 7(q +,996\*(96<sup>LP</sup>  
3:<9t6 7696;q 7(9, :()),+69+,3B;,9x +, :<.6)0956 ,5 3 \*<,;:u5  
\*64 ,9q3 ,5Y3u :<: )();,9(: /(\*q ,: ,;4( : ,.<9u (3+,7(9(4,5;6 +,  
:;(+6 8<, )(16,3.6)0956 9B(5;, ,5 p?06 B: 4 656763B: B: 04 7<,;:6:  
:6)9 3: ,?769(\*65,: @3 B;( +, 796+<\*;6: 796/0 06: :, 4 <3073)()5\*(+  
+r( <sup>LQ</sup> 34 B0;96 ,5(9 63u 3 +,-,5:( +,33)9 \*64 ,9\*6 @, \*65=9u ,5 ,3  
769(=6A+, B: \*64 ,9q5;,; ,;:(+<50+,5:,; 8<05,; +<95;, 3 .<,99 /())r(5  
.6A+6+, <5( 763;0( (95\*,390 3),9304 7<,;:( +,;+, \$ (:/ B.;65 @ (163  
(+4 B0;9\*0u5 :(5;(550;( 9:B;0965 3: 4 ,+0+(: 9::90;0A: <sup>NH</sup> (+:+,5 56  
7,9+u 3 6769<50+(+,+ ,(\*65:, 193 79:,5\*q +, <5( -<,9A 5(=3,5,3 636  
+ <sup>B</sup> p?06 @,5 ,3 (\*rY\*6 ,5 ;(5;6 B: 4 6=04 05;6: 9=63\*65(96:  
\*65=9u 5 @3: 9::90\*65,: \*64 ,9q3: ,5;697,\*095 ,3B;,9(4)B ,5;9  
3+u. 7(r,: : (79:,5\*q (Y94 u :,9=9( 7(9 796;,.,9+, 76:0 3: <3%69,079





\* 7&9)P 3.b3 ,::() ( \*65=, 50+6 , 5;9 3: 9 =63\*065(96: @ <(5 \_3(9A  
769<5( 7(9, @, 3, 5=0+6 7693 6;9 @\*65=, 9, 9( ( p?06 , 5 796;, \*, 69+6  
, ::(+<50+, 5:, <sup>N</sup> 3 (:<5;6 796=6\*u<5 (<;p5;06 , : \*n5+(3 3 \*65=, 50  
, ::() 3\*r( <5( (3) 5A 6-, 5:0( @+, -, 5:0( 8<, (76@9( (3. 6) 0956 4 , ?0(56  
, ::() 3\*0+6 3 9.5<5\*0 ( ;6+6+, :0.506:6) 9 ;, 9906906 4 , ?0(56 3 .(95;r( +,  
3 0;, . 90(+; , 9906903+, p?06 \*65;9 \* <(3<09(4 , 5(A , 3, 5=6( , ::, 7(r:  
+, 3 04 09\*0.5 796=, 505;, +, <967( <5 79p:(4 6 769K4 0365, : +, 7, :6:  
. (95;0A+6 769<5( / 076;, \*( :6) 9 3 79670(+++, 3 .3:0 ] \*65 6 :0 :<  
(5<, 5\*0] @3 0:; (<9\*0.5 +, p(6)0(5\*6 +, 0 r6

! 9: 3 (@+( 9\*00( +, 3979:, 5;(5;, +, \$ (:/ 5.;65 9:<3u 3i. 068<, p:;, , 19\*09 <5( \*39 5 <, 5\*Q :6)9 , 3., 5, 93 <(5 \_3(9A(3506 +, 3 .6)0956 3), 93<sup>ok</sup> 3564)94 05;'3 Q!Y



• "™Š~ ‡%•" ‹™Œ ‡' ‹™

() 39+, (4, : (+: +, 5 04 73) ( ;, 5, 979 : , 5; , 8<, :, ; 9; ( +, < 5 : < 9 t 6  
, ? 7 ( 5 : 650; ( : , \* , : 650; ( @ : \* 3 = 0; ( , 4 7, t (+ 6, 5 04 7 < 3 ( 93 6 +, 7, 5 +, 5 \* 0  
+, 3 : < 9 ( 7 ( 9 0 0 Ó •

(4) 6: 3+6: +, 3 -965;, 9 4 <\*/ (: =\*, : (:6\*Q+6: (99)(;(965 ( 3 =( +0734 m0( , 3\*65;963+, 3 :0<(\*05 @, ?/ 0 0965 3 04 769,(5\*Q +, 3:, \*, 69 Y5(5\*096 , 5 3: +, \*065, : +, \$ (:/ 5.;65 ( 79:, 5\*Q , 5 p?06 +, 3(., 5;, , :7, \*Q3 /90;67/, 9 \$ (9+ 3)(+6 ( 3: 5;, 9:, : +, (96<: 9 79:, 5;u 3 =63<5;( + +, ,: , .9<76 +, +, Y50 , 3\* <96 +, 35<, =6 ;9;( +6 \*65 p?06 @ :04 ) 63Au 3 \*64 7,;, 5\*Q , ?0;, 5;, \*65 3: 5;, 9:, : +, 3: , ?7(5: 650;(: @+, 3: , 4 79:(96: -, 99\*(993 96: ( 3: 8<, (+: +, 5, :;)( 3)(+6 : +0 \*03: 67, : (9 , 37(7, 3+, 3 ( +4 50;9\*05 +, 09\*, , 5 3: (: <5;6: 4 , ?0(56: 4 m (3m+, 3: 6; ;p5 8<, 04 730u , 39 \*656\*04 05;6 ( 3: 7(. (9x @, 3 34 0(+6 \*65;9638<, 796\* <9u , 19\*, 9: 6) 9 3: , ?7, +065, : Y3) <:, 9: 6 8<, :r 9: <36 CHE 6

P! <~± ‡™ 3; \*7843\*8 7 K

Q 0<,3 9636 4 50;96+, ,3\*65,: ?;,969:+, p?06 ( 39+ 65235. ,5=0+6, ?;969+5(96 @  
4 50;96 735076;,5\*096+, ::(+6: " 50+6: ,5 p?

JO (+:+,5( r,A+, 6503 p?06 Q+, :,7;04)9 +, IFNK,5" † \*889- \*8 9635 IQ=63 IP

JP 3564 )9(4 05;6+, 3: (. ,5;,: ,:7, \*03: ( +0,95\*0 +, 3: 5;,. 95;,: +,3\* <, 976 +07364 m06 9. <39  
56 5,\*, :0() ( : ,9 \*65Y94 (+6 769 ,3\*65. 9:6 3 8<, +()) ( 4 736 4(9,5 +, 4(506) 9 (3,1\* <;0-6  
! <~ † †™Y †™#” š-ia™

LM  $\llcorner \# \#$



!"

&!

\$&!

!





3: \*65;(\*;6: @3 \*0\* <3\*05,5;9 :<: +6: \*6:;(: (+8<005+6 4 m ;, 9906906 ]  
7(9 <5 -, 996\*(993;95:\*65;5,5;(3:<9t 6] @(:,. <95+6 ,3(\*\*,:6 +, :<:  
\*Q+(+(56: ( 3: 7(:6: ;95:6\*, n506: +, (5(4 m] (;9=:(+6 769, 37904 , 9  
-, 996\*(993 ;95:\*65;5,5;(3 0(9.<( @! ,/<(5;,7, \* ,::, x304 6 : ,  
\*65=00 , 5 , 3 4 m =5;(16:6 769 :< \*, 9\*(5r( @769 , 3\*637:6 +, 3 9<:(  
50(9. y, 5: , ;9: 3 4 (3. 9+( , ?7, +005 +, \$ 0304 \$ (3, 9, 5 IFM- 5 IFM  
(796, \*/ u 3 +0r\* <3(+ 7(9 (\*69+(9, 3;9 A6 +, 3 -965,, 9 \*65 <, =6 p?06  
7(9 79: 65(9 (:<=, \*56, 5 (9: +, 6) , , 5, 94 m ;, 9906906 5; , , 3(79 4 6 +, 3  
. 6) 0956 , ;(+<50+, 5: , , 3. 6) 0956 4 , ?0(56 3 =, 5+0 ( :<=, \*56 76\*6 4 , 56:  
+, , , , 5;( @0; , 4 0204 , ;96: \*(<+9+6: 4 , +05; , , 3;9;(+6+, ( , :03 M  
5 , 4 ) (9 6 , ;:( 67, 9 \*05 ;(4 76\*6 7<: 6 Y5 ( 3: (4) 0065, : +, , ?7(5: 05  
/(\*0 , 3 :<9 8<, \*64 7(9r(5 Y3) <;, 96: -<5\*65(96: @ 763;06:  
, ;:(+<50+, 5: , : +, \*0 +, 6:p (9( (; 9 79: , 5;(5; , +, 3. 6) 0956  
\*65:;0<\*65(3, 5 \$ (:/ 5. ;65 , 5 IFMP , 3X, : , 6Y+, , ; , . 6) 0956 +, (+8<00  
4 m ;, 9906906 4 , ?0(56 9 @) ( X5 3 4 (5r(Y^N 65 p; ( ; , 5+9(5 8<, 3+093:  
+6: . 6) 0956: 4 , ?0(56: ] , 34 00(9\*65:, 9-(+69, 5 3 Q+(++ , p?06 @3  
\*65:;0<\*65(3, 5\*( ), A(+6 769 , 506 <n9 A 5:;(3+6 , 5 #, 9\*9<A] 8<, ( )  
7(90+, , 5, 96+, IFMP

" š•œ Š< <•~••†~•œ' %' †Š• ~•œ™" †' Ÿ-•' |š•%†" <" š< %" <'  
Š" i" %œ → <~š• Š< •^•' < ' †^†" † Ó %œ Ÿ††%œœŠ†Š%œ <~%œ†  
†~š•%œ' †Š† <" š•~" • †' † <ž-~š†%œ©' Š<' †••Š©' <~†™~†Š† <"  
<' •' œ Š< œž%œ ™• -~' †Š< ><œ ~' <†" ™ Ÿ†" š•œ •  
%œ" œ†š•œ" š< <" ' †•œ <~~†%œ" š~† œž%œ >™™™ >%œœ" <™™%œ> ††  
†™™ >~†~' †%œ" ~†Š< †† †•œ~" † •" •~†Ÿ†~š< Š< Ž•Ž†Ž†  
†Š<" i™Š††~•~†™†† %œ" <~%œœ <™†Š" •Š<"™™ <" >" " <~%œ†Š•  
Š•œ" †Š• -~' •™~•šj" %œ™™ <^††š†" ^•œ" •" Š<™™š† • " • <†

∴, / () r ( \*69+(+6 @, 5, 3;9;( +6+, ( ,:03 IK  
, .x5 , 3, 5=0+6 ,:;( +<50+, 5:, ., ;9;() ( +, <5 \*65=, 50 796=, \*/ 6:6 7(9  
(4) (: 7(9, : , 3(1k:;, 7967<, :;6 6), +, \*r ( 3: +, :0 50: +, 3 796=0+, 5\*0  
7<,: :

“ ” • TM ~ • - ' < " • š < " % ť ~ • • † • ^ < ~ š % ť " < Š < † ~ Ÿ † " Š  
< ž - < ~ " < " š † Š - ' i š • % Š < " - < % † ^ ' < TM / ~ < Š " % ť ' < TM Š < © % ť š † TM ž • •  
Š < Š - ' • " i š • % < • ~ < TM Š Š < \$ < TM • • " š - > < ž † ^ † † " < • • % ť Š  
% ť < TM • • " < TM % ť " < ~ % ť ' < TM % ť " ž • † > " • TM " • TM " š < TM Ÿ - • " • œ Š • - > <  
TM š Š TM " • Š TM M " † " š > œ < ~ † † " † • < " Š < ' • TM TM E < ~ • TM > ~ • - < • TM  
- † † • ^ ' • • † ~ † " • - < ~ • • † TM š • % † † ^ ~ • TM † ' % ť " < ~ % ť % ť " % ť Š < " š <  
† † - > " š † Š < TM † Š † D <sup>Ů</sup>

65 Ÿ (5+6 , 5 8 < , \* (5, : ( ) 9 ( 0 , 5 ; 0 Ÿ \* (9 3 : 0 < (\* 0 5 4 m = 5 ; ( 16 : ( , 3  
+ , 7 ( 9 ( 4 , 5 ; 6 + , :: ( + 6 3 6 ; 6 9 5 \* 4 6



4, ?0(5(Y<sup>u</sup>

(: \*65\*, : 65, : 8<, \*65;, 5r( , 3; 9; (+6 796=6\*(965 <5, : \*n5+( 3, 5 3 67005  
7x) 3( 4, ?0(5( 1) 06: (4, 5;, (A<A+6 769, 3.6

( ) (5( @8<, ,3.6) 0956 3), 93/ ( ) r( +,5<5\*0+6 \*64 6 70; (: 3X5\*0+,5;,  
+, 5;u5 0(9+6Y\*65;9) <@ (3-9\*( :6 +, 3:06 \*65:,9(+69+, #, 9\*9<A 5  
+004) 9 3: ;967(: 3), 93: +, 96;(965 (3, p9\*06 +, 0<, 3 04 u5 @<5  
2€: 07,9700: < \*63 3, 0; 0+50<n2A ( 90390(3 :, 9:;( <9u , 39p. 04 , 5  
\*65:;0<\* 65(3,5 3 97x) 3( 3\*65=,56 ,5;65\*, : 56;95:-694 u 3 93\*05  
)0;, 93 6\*<4,5;( ,5\*(4) 6 3(79,4 05;, +, 3 .<, 99 @3 (:04 ,;9( ,5;9  
3: 7(9, : 5, .6\*0+69: (:r \*64 6 3 73:;00(++ ,3/ 69065;, +, 76:0 00(+, :  
+,5;96+,38<, ., 4 6=r(5 4 (9\*(+6,5 (4) 6: \*( :6: 7693 763;0( +64 p;0( ]  
@3 01,95\*0 +, 3: 0;,9:,: 790(+6:] ;(5;6 \*64 6 769 3 ,?;, 969 3

(



,5;9.(9( 3: ,:\*3=6: -<.006: ,?0, P•P&<sup>TM</sup>Ž1s0

+034 (\*Q +, \$ (:/ 5. ;65 / ( 79

⇒ 96:

KN (9(+, !/64(: 69>5(\$ 0304 ,>(9+ JN+, 1<50+, IPN !<~~ † †™Ÿ †™” š< 48.39788 7  
LQ

KO! <~~ † †™Ÿ †™” š< @ >~ † †o†' ' < 88718(.43\*8 77 LJI LJJ

KP! <~~ † †™Ÿ †™” š< @ >~ † †o†' ' < 88718(.43\*8 7 LJK >~ † X.(5(;Y

KQ 6)9 3 \*64 731 \*65;9<\*0u5 +, 3 -965;, 9 @6: 4 ,\*(504 6: 3.(3: ] 5(\*65(3: @<)5(\*65(3:]  
7(9 +0\*0735(9 ( <58<, \*,5;9+6: ,5 7,906+6: 76:;, 909: =p(5:, ^†'•™ :894 \*88)48  
†~••'•™ 58/\*84+ &<

LH %ž••”•o3~ 41878



6:;,9 +<95;,:< ,:;(5\*Q ,5 p?06 3 7(\*0Y

3+6 \*64 6 (+=09, (63 0 <A0 <5( X6,5:0( ;,?(5(Y





(4 06:Y @\*65:0,9)( 8<, X\*64 6 79:0,5,, :04 79 ;9;u 3: \*

9\*, 3, 5 = 5\* < 39, 37(.6+, 9\*34 (\*65, : \*65, 39\*656\*04 05;6+, 3.6) 0956  
+, 69Y96 r(A, 5, :7, \*037698<, 7(9\*, 8<, p:, , :7, 9)( 8<, :, 795\*, +09  
, 5+0/6:, 5;0+6<sup>JH</sup> : 76:03 8<, , 5, ::( 6\*( :05, 33.( 304 6+, 3#( 39( 190;( :  
:, 04 7<:09 :6) 9 3 :(. (\*0(+++, 3#( 39( 763;06 7<, : 564, +01:0<09 <5  
05;, 5;6 769, ?739 964, +093 76:005, ::(+<50+, 5:, 5 \* <( 3<09\*( :6 \*65  
+0/ ( (\*\*05 \*64, ;01 <5 .95, 969

\*Q+(+(56: ;05,5 8<, ;q;(9Y 967<:6 (3:, \*9;(96 0/ ,:7,99/(:( 3:  
, 3\*\*65,: 4 ,?0(5(: 5(\*65(3: +, -,)996 6 \*(<37,94 00( +0\*<;0 3:  
\*,<,:;65,: 9-, 90(: [u](#)

5 3 4 (+9<.(+( +,3K +, ,5,96 6:p (9( (;( @ 96!(.3 33.(965 (  
\$ (:/ 6.;65 7(q 9(3A9,3794,9 ()656 +, 3: 9\*34(\*65,: (;( -<,  
(\*64 7(t(+6769 .5(\*6 (90\*(34 50;96735076;,5\*096+, p?06+, :+, ,3  
.6)0956+, ,9+6 8<0556/())r(:0+6\*,:(+6( 7,:(9+, 8<, ,379676#(3)9(  
\*65Yu( 6:;,98<, :, :6:7,\*/())(+, :<\*65+<\*;( 5+<+( +0/( 9=,3\*05-<,  
6;96 ,969 7<,: 56 :634,5;, +,4 6:;9)( 3 +,:69(50A\*05 +,3 \*,<,976  
+0734 m064 ,?0(56 :66;(4) 05 3 6,?0;,5\*0 +, <5( 979:,5;(\*053(3(3

65:;Q<\*05Y+, p?06 34, 169, q (73A9, 39 \*656\*04 Q5;67(q \*656\*, 9:<  
=, 9+(+, q X<, 9A @7, 94 (5, 5\*Q B C@< (\*, 7;(\*05 769, 37(r:Y +, 4 m (:r  
:, \*65:,. <Q( 4 m ;04 76 7(q ;q;(93: 796) 34 (: 8<, (8<, 1)(5 3 -965;

, : \*90 u ( 6 : , 9 8 < , X 796 ) ( ) ( \*64 73 ; ( 4 , 5 ; , Y : < ( \*\*0 u 5 + , 76 : 765 , 9 , 3  
9 \*656 \*04 05 ; 6 + , 3 . 6 ) 0956 + , 69 Y 906 r ( A 5 ; , : + , ; 64 ( 9 < 5 ( + , \*0 u 5  
+ , Y 500 ( : 6 ) 9 , 39 \*656 \*04 05 ; 6 , 3 . 6 ) 0956 8 < , 9 ( = , 9 \* u 4 6 : , + , : ( 963 ) ( 5  
3 : \*0 < 5 ; ( 5 \* 0 : 3 < 56 : + r ( : + , : 7 < p : , 3 K + , 4 ( 9 6 = ( 9 : 9 Y 90 u ( 6 : , 9  
8 < , ; 9 : , : \* < \* / ( 967 5 65 : , + , 3 + , 7 ( 9 ( 4 , 5 ; 6 + , < , 99 , 379 : 0 , 5 ; , ( @ :  
, : ; ( ) ( \*65 : 0 , 9 5 + 6 3 76 : 0 00 ( + + , 8 < , : 0 , 3 . 6 ) 0956 + , r ( A X 56 , : ; ( ) (   
+ 07 < , : ; 6 6 , 9 5 \* ( 7 ( A + , \*65 ; 963 93 : + , 79 + ( \*65 : , 5 3 - 965 ; , 9 B C 76 + 9 (   
\*65 : 0 , 9 9 , k : ; < 5 ` q € Ò €



+ , 34 (50 3 \*64 ,5;u 8< , # (39( ;(4) 05 3 , :7, 9) ( ?(:7, 9+6 6:;, 9  
34 ,5;u, 3X(9m;, 9=63mB, 5-(5;B+, ,:;, 7<,) 6Y<sup>K</sup>  
, :+,

69796 r(A 0 7<3u <55



,5;65\*,:

+ , 7(9(4 , 5;6 + , : ;(+6 7< , : , : , +r( , : ;())



, 3., 5, 93 r(A/ ( 3. 9+679:, 9(93 7(A, 5 3 4 ( @97(9, +, 37(r: Y! (4) 0c

6:;,9Y 77 OPIH <œ" < 4 3" 49 77 INJN ••> • X6/5 \$ 6:;,9Y ‡ÿ™ - \* 11 843 77 Q  
NJ

K ‡ÿ™ - \* 11 843 77 IKIM

L ••> • X6/5 \$ 6:;,9Y 77 ILOILQ ••> • X(aÃ fqp

IO ž' '™X6/5\$ (:;65 6:;,9Y77 QQP

IP •~<T§ X 50,+ ;(;;, \*6.5065Y77 MNMD

IQ 6:p (9( (;/(/)r(:0+6,5=0+6,?;969+5(96 @4 50;96 735076;,5\*096+, p?06,5 ;(+6:  
" 50+6: ,5;9 IFNPIFNH @7(9007u,5 3: 5,.6\*0\*65,: +,3-9<;9+6;9;( +6 \* (5, \*(476DFME 96  
!(.3 ,9 / ,94 (56+,3769Y90;( 96;(:6!(.3

JH •T# #•' <•‡™ '788 M77 JJJK 3IN+, ,5,96+, IP00,5 ;,3.94( \*09+6+, :+, <+(319  
+65+, \*64)(;r( (:<: 676:069: 69Y96 r(A9:765+0u ( 96!(.3 8<05 3 /())r( (5<5\*0+6 :<  
79u?04 ( 7(90( ( \$ (:/ 5.;65 X ,3.94( (34 50;96 +, ,3\*065,: 97005+63 3 79.<5;( 8<, : , 3  
/06:6)9 :0,3.6)0956(4 ,97(569\*656\*r( (35<, :;96 6:0

6) 9 3 \*(4 7(t( +, 7964 6\*05 7x) 3)( +, 69Y96 r(A, 5 -(=69+, :<.6) 0956 @+, p?06, 5 ;(+6:  
" 50+6: =p(5:, • ^™ X r(AW ?, \*<0; ., 5;:Y @ ••) • X, ;>, , 5 0364 (;0 900Y 6) 9 3:  
04 769(5, : (\*;0+ (+, : +, ' (4 (\*65( , 5 ;(+6: " 50+6: =p(5:, (+, 4 m+, 36: (<6 9: 9-, 90+6: •Š <  
X \*6<5; 9@5 5, +Y 77 JLPJND ‡Ÿ™ - \* 11 843 4+, 34783(\* 77 KQNH •™ #•' <• ‡™ ' 788 M77  
IKI IKI 6) 9 3 4 005 +, ' (4 (\*65( \*64 6 (. , 5;







)<,5( 97<(\*05,5=(96: 7(r,: 3;56(4,9\*(56: @<;(35;6,9 9\*656\*0+6  
, /,\*/6 \*(5+6,35

/6+, :35+ ,5 3 65=,5\*0.5 (\*65(363H,õ7(90+6 ,5 IQH ,59@  
3;\*/ ,94 \* 45 759 4 \* 3 \* 89FD , 89200 LA SO.

" š~ < \$ • T" Y †~ † †

Y5(3: +, IQN3 . <, 99 , 5 <967( : , , 5\*65;9)( , 5 <5 \*(3 15 : 5 : (3+ @  
( <58< , , 379:0, 5; , \$ 065/() r( 3. 9+64 (5; , 5, 9( :; (+6: " 50+6: -<, 9 +, 3  
\*65 0;6 +r( \*65+r( (<4 , 5;()) ( 3 79:05 7(9 8<, 5; , 9=509 @ 76@9 ( 3:  
7(r. : (3)+6: , / , \*/ 6 \$ 065/() r( / , \*/ 6 \*(4 7(t ( 7(9 :< 9 , 3\*\*05) ( 6 , 3  
, : 3. (5 X 6: 4 (5; <=6 -<, 9 +, 3 . <, 99 Y 7, 96 3 79:05 (<4 , 5;()) ( 5; , : , 5  
4 ( @ +, IQM\*64 6 7(9 , +, 3, :<, 9A 6 769, =0(98<, :; (+6: " 50+6: (76@9 ( 5. 3;  
99 <5 :<) 4 (956 (34 n5 /() r( / <5+0+6 (3) (9\*6 <:0(50 ] +,  
3 4 (95( 4 , 9(5; , ) 90n50( \*65 4 m+, \*05 7(: (196: , :; (+<50+ , 5; , : ( ) 69+6  
] @ \$ 065/() r( +, \*3 9+6 8<, 56 7, 94 00( 3 . <, 99 :<) 4 (95( 04 0(+ (50  
4 m=63\*65, : (3+, 9\*/ 6 5; , 95(\*65(34 (5; , 50+6: , 5, <; 9 3<sup>o</sup> , 96 , 5 , 5, 96  
+, IQO 34 (50 +, \*0+0 <; 0A 9 5+0\*94 5(+ (4 , 5; , :<: :<) 4 (956: , 5 , 3  
6\*p(56 ; 35; 06 : 5 04 769(98<, 3: ) (9\*6: / <5+0+6: 56 -<, 9 5 4 00(9: 6:  
(34 (5, : ; , 4 r(5 : 5 , 4) (9 6 8<, :; (+ , \*005 , 4 7<19 ( :; (+6: " 50+6: ( 5;  
9=50 , 5 3 . <, 99 +, 33+6 +, 3: (3)+6: 3 8<, 8<, 9(5 , =0(9( \*(<3<0 9  
\*6: ; 6 (9 , 36 , 34 50; 96 +, , 3\*65, : ? , 969: +, 34 (50 9/ <9  
' 04 4 , 94 (55 735, u <5( . <, 99 , 5 , 3\*65; 5, 5; , (4 , 90(56 8<, 4 (5; <=09 ( :;  
:; (+6: " 50+6: (34 (9 , 5 +, 3 \*65 0;6 ) p?06 , 5 <967( : r , 5=0u 769  
; , 3. 94 ( <5( 7967<, :; ( ( :< 4 50; 96 , 5 p?06 , 590/ =65 \*2(9+; 8<,  
+, ) r( : , 94 6: ; 9+( ( (99 5A +, 4 (5, 9 \*65 Y+, 5\*03 3 @ -(4 6: 6 ; , 3. 94 ( ' 04 4 ,  
' 04 4 , 94 (55 796765 r( <5( (3) 5A , : ; 9; p. 0( 8<, 7, 94 009 ( 34 (50 <; 0A 9 3:  
< 7<, 96: 4 , ?0(56: 7(9 :<: :<) 4 (956: ( \*(4) 06 +, 3(76@ (34 n5 ] , 5 \*(: 6 +,  
8<, p?06 8<009 9 \*65 8<0; (9 3: ; , 99 6906: 8<, :; (+6: " 50+6: 3 /() r( (99) ;  
(+6 <+9 5; , 3 . <, 99 +, IRLQ ' 04 4 , 94 (55 :< . , 9( ; (4) 05 8< , p?06 7967<:  
09 ( (7u5 7(9 07(9 , 5 +0/( (3) 5A <sup>JH</sup> 3 ; , 3. 94 ( : , , 5=0u , 3IN+, , 5, 96 +,  
IQO 7, 96 56 -<, +(+6( \*656\* , 9, 5 :; (+6: " 50+6: : 56 /(:; ( 4 , +0+6: + , - ) 9 96 \*2(9+ ; / 0A 3 7967< ; ; ( ( n5+0+6  
. <09, 3JH+, , : , 4 , :

5 , (: : , 4 (5(: +6: 796\* , :6: 3. ) (5 ( :< Y5 769 <5 3+6 , 5 p?06 , 3  
65: ; 0<@5; , + , <, 9; (96 , :; ) ( ( 7<5; 6 + , ; , 94 0(9 3 \*65: ; 0<\*05 8<,  
(99 5A 3 /() r( , 5\*(9 (+6 7696; 96 , 5 :; (+6: " 50+6: 3 3 4 (+ ( 64 005  
" 50+ ( , ?0(5( 4 , 90(5( 8<, 5 . 6\*Q) ( 3 : (3+ ( +, 3 ?7, +005 <500( +, : + , 3=  
9 56 +, 3(t 6 (5; , 969 / (\*r( :<: 9 \*64 , 5+( \*65, : Y5(3: (5; , : + , +063 , 9 , +,  
Y500(4 , 5; , , 3IM+, , 5, 96 <sup>J</sup> :; 6: +6: 796\* , :6: \*65+065(965 3: 6) 1; 0-6: 8<,  
7(9 , 5; 65\* , : ; , 5r(5 \$ 065 @ (99 5A <58< , 37904 , 96 @ /() r( \*65: , . <0+6 :< 9 , 3\*\*05 , 5 56=04) 9 +, IQN / (\*05+6 \*(4 7(t ( , 5

\*65;9 +, 3: X: \* <9: Y0;, 9 : , : +, 3: \*



/0095<5(+,\*39\*057(9,=0(98<,3675057x)3(,5::(+6:"506:.,  
79+07<:09,5:<\*65;9.<09:,5,.u370+0u(3;\*/,98<,5<@9  
7(98<,,3x506.6)09568<,\$065/()r(9\*656\*0+67<+0904769(9  
(94(4,5;6+,:+,::(+6:"506:@35=0u(0(3\*6,5+65+,.,  
,5\*65;9)(995A:r(<5(:,4(5(+,:<3.(+(3;\*/,9,::()(@,5;9  
\$065@(995A=015+6k5;6\*65n5+0+6.<099<4)6(<+(319  
\$065,::() (79,6\*<7(+676935<,( \*65::0<\*057698<,3:3@:,95  
\*65ÿ:\*(;690:769,3(5;0390(3)46+,3:9=63\*065(90:4,?0(56:

\*Q+(+(56: ,:;( +<50+, 5:,: 69, 14 736 ( <5 \*6:;( +6 +, 3;, ?;6 +, 3(9r\* <3 IL  
] :6)9 3 9;96(\*;0=0(+ +, 3: 3 @:] <sup>kk</sup> 3;\*/ ,9 ,:\*9)u X,96 56 / (@  
796=00u5 (3 <5( 8<, ,=0, +(9, -, \*;6 9;96(\*;0=6 & \*88&(4389999



X::6@:..<96 ] 3 ,:\*90u (3 :,5(+69 ,59@ ()6; 6+.,

:0<(\*05,5 5<,::96 7(r (:,.<95+6 :04 79 8<, (<58<, 34(50 ;,5r( 3  
4,:( 7<,:( 7(9 /(\*,9;6+6;076+, 6-9\*04 05;6: ( p?06 (995A 5<5\*  
\*(,9(,5 3 ;,5;(\*05+, 99(3A9\*65,3.6)0956+, ::(+6: " 50+6:

m(3m+, 3 9 3\*05 7,965(38<, /())r(5 \*65;9<0+6 (995A @ 3;\*/,9 3  
\*65\*0+,5\*0+, 6)1;0-6: +,:(7(9\*0 @Y5(34,5;, ,3IH+, +004)9 \*(<(5+6  
@,9 \*396 7(9 3;\*/,98<, 3 :0<(\*05 Y5(5\*09 +, p?06 564, 1699( @  
8<, 79n;0(4,5;, :,9( 04 76:03 8<, 7<+09 5,.6\*09, <5 79p;(4 6<sup>LK</sup>,3  
+,7(9(4,5;6+, ::(+6 34 u(3,4)(1+697(9 \*65:<3(:<sup>LL</sup>

' ~ < . ~ < TM † † Š - ' • † % † Š ' Š © † ~

<58<, 5<5\*( : , + :\*(9u;6;(34,5;, 3 76:0 00(++ , <5( . <,99 ,5;9 ::(+6:  
" 50+6: @ p?06 +<95;, 3 79:0+,5\*0+, (995A 3 +,\*005 +, \$ 66+96>  
\$ 065 +, 0;,9=,50,5 3 94,9 <,99 <5+0304 73u 8<, 3 79099(+  
7(9 ,59@ 3;\*/,9 -<,9 X4(5;,5,9,5 7(A( p?06Y 4 05;9: +<99 ,3  
\*65 0;6 )p306<sup>LM</sup> )=04,5;, \*(<(5+6 3 \*65;05+( ,5 <967( ;,94 0u @  
::(+6: " 50+6: ,4,9 0u \*64 6 <5( 76;,5\*0 4 <5+03-69(3\*0( :<: 9 3\*065, :  
\*65 p?06 \*(4)0965 9+0(34,5;, ,96 ,:6 56 :050\*( 8<, ,37(7,3+,  
3;\*/,9/( @ :0+6 +, :79\*0)3 694 <\*/( 8<, /( @ :0+6 3 (:04 ;,9( ,5;9  
(4)( :5(\*065, : 76996;<5+6 8<, /( @ :0+6,3-9\*( :6+, 3 ?7,+005 <500(   
676904 769(5;, 8<, -<,9 7(9 \$ 065 ;,5,93: 4 (56: 3)9: 7(9 0;,9=,50,5  
<967( 5(+ (0+0( 8<, :0 3 +0364 (\*0+, 3;\*/,9:, /<)09 ,=0(+6 <5(  
. <,99 ,5;9 36: +6: 7(r,:( 7(90 +, 3 7<)3(\*05 +,3 ;,3.94(  
' 04 4 ,94 (55

: \*096 8<, +, :7<p+ +, Y94 (+ (3 7(A,5 <967( 3 76:005 +, 3;\*/,9  
;(4)05 \*(4)0u 9+0(34,5;, 7(90+, :<=01 ( \$ (:/ 0;.65,5 +004)9  
+, IQO()6.u 4 <\*/6 4 m \*394,5;, 769 36: 0;,9:, : +, 36: \*(70(30(: :  
4 m +, :+, IQP 3;\*/,9:, 6):, :05u \*65 3 \*<, :;05 +, 37;,9u36 769 36 8<, -<,  
4 m 04 769(5;, ,37(\*0Y:4 6+, \$ 065 8<, ,3+, :<,4)(1+69,5 p?06<sup>LN</sup> ,96  
(<5 \*(<(5+6 3 76:005 +, 36: 0;,9=,5\*0650;(: ,5 ::(+6: " 50+6: :, -69(3\*0u  
3;\*/,95<5\*( :;:<=6 ;6;(34,5;, +, (\*<,9+6 \*65 <5( 0;,9=,5\*05 4 00(9 5  
:<+, \*39\*05(5;, ,3 64 0p+, ,3\*065, : ?;,909: +,3\*65.9:6 +, ::(+6:  
" 50+6: +6:

+ , 9 \* / 6 : + , 3 : \* 0 + ( + ( 5 6 : + , : < 7 ( r : 3 ; \* / , 9 9 \* 6 4 , 5 + u ( ) 0 9 ( 4 , 5 , , 3  
5 ; , 9 = 5 \* 0 5 LQ 5 + 0 / 6 7 3 5 9 \* 6 4 , 5 + ( ) ( 9 6 4 7 , 9 9 3 \* 6 5 , : + 0 7 3 4 m 0 ( : \* 6 5  
p ? 0 6 : 0 ( 9 9 5 A 5 6 ( \* , 7 ; ( ) ( < 5 ( : , 9 0 + , \* 6 5 + 0 6 5 , : 7 ( 9 ( : , . < 9 9 8 < , 3 :  
+ , 9 \* / 6 : + , 3 : 5 = 9 6 5 0 ; ( : , ? ; 9 5 1 9 6 : - < , 9 5 9 : 7 ; ; ( + 6 : , 9 6 8 < p 7 ( : ( 9 (   
+ , : 7 < p : 6 , 9 , : 6 3 4 0 4 6 8 < , 7 9 6 7 6 5 , 9 < 5 ( 5 ; , 9 = 5 \* 0 5 < \* / ( . , 5 ; ,  
7 0 5 : ( ] , : \* 9 0 r ( 3 ; \* / , 9 8 < , X < 5 ( 5 ; , 9 = 5 \* 0 5 ( 9 4 ( + ( + , ) , : , . < 9  
+ , : 7 < p : 8 6 5 6 \* 9 6 8 < , p ( : , 9 ( 3 \* 6 5 : , \* < , 5 \* 0 5 , \* , : ( 9 0 7 9 4 , 9 6 7 6 9 8 < ,  
5 < , : ; 9 6 : \* u 5 : < 3 : @ \* 0 + ( + ( 5 6 : : , . < 9 5 , 5 p ? 0 6 < , : ; 9 : 9 7 9 : , 5 ; ( \* 6 5 , :  
+ 0 7 3 4 m 0 ( : B C : , 9 5 / , \* / ( : 7 6 9 < 5 + 0 7 3 4 m 0 6 + , < 5 . 6 ) 0 9 5 6 ( 4 , 9 0 ( 5 6  
( 4 0 6 @ : , . < 9 4 , 5 ; , : , 9 5 4 m , - , \* ; 0 ( : ( : r + ( + ( : 3 : 7 9 : , 5 ; , :  
\* 0 < 5 ; ( 5 \* 0 : Y<sup>NH</sup>

5 ( 3 4 , 5 ; , , 5 , 5 , 9 6 + , I Q J H 3 ; \* / , 9 7 9 : , 5 ; u : < 9 5 < 5 \* 0 \* 6 4 6 , 4 ) ( 1 + 6 9  
, 5 p ? 0 6 , / , \* / 6 3 ; \* / , 9 / ( ) r ( 9 5 < 5 \* 0 + 6 + , : + , ( . 6 : ; 6 + , 3 ( t 6 ( 5 ; , 9 6 9  
7 , 9 6 \$ 0 6 5 5 6 / ( ) r ( ( \* , 7 ; ( + 6 3 9 5 < 5 \* 0 \$ 0 6 5 / ( ) r ( , : ; ( + 6 , 5 < 9 6 7 ( 6  
, 5 - , 9 4 6 3 4 ( 0 9 7 ( 9 , + , I Q Q 7 6 9 3 8 < , + , 1 u 3 7 6 3 ; 0 ( , ? , , 9 6 9 / ( \* 0 p ? 0 6  
( \* ( 9 6 + , 3 ; \* / , 9 @ ( 5 : 5 . < 0 m \$ 0 6 5 \* 6 5 Y ( ) ( , 5 8 < , 3 ; \* / , 9 : , . < 9 (   
: 0 5 + 6 < 5 ( 7 0 A 0 4 7 6 9 ( 5 ; , 7 ( 9 4 ( 5 ; , 5 , 9 3 7 ( A 7 < , : , 8 < 0 9 9 ( 3 7 6 : 0 0 5  
( ) 0 9 ( 4 , 5 ; , 5 ; , 9 = 5 \* 6 5 0 ; ( + , 3 : , \* 9 ; ( 9 6 + , : ; ( + 6 <sup>M</sup> 5 : < 9 5 < 5 \* 0  
3 ; \* / , 9 : , 9 - , 9 ( ( ( 9 9 5 A \* 6 4 6 , 3 x 5 0 6 9 : 7 6 5 : ( ) 3 + , 3 : 7 9 6 ) 3 4 ( : @ 3 :  
( : 7 , 9 A : , 5 3 : 9 3 \* 6 5 , : , 5 ; 9 : < 7 ( r : @ p ? 0 6 6 3 : ; 6 7 6 9 8 < , \$ 0 6 5 5 6  
/ ( ) r ( ( \* , 7 ; ( + 6 : < 7 3 5 , 5 + 0 0 4 ) 9 + , I Q Q 3 ; \* / , 9 \* 6 5 : 0 , 9 u 3 7 6 : 0 0 0 + ( + + ,  
, : \* 9 0 9 , 5 3 7 9 5 : ( 7 x ) 3 ( 4 , 5 ; , , 5 : < \* 6 5 ; 9 ( < 5 8 < , 3 , . 6 + , : 0 ; 0 5 : , 5 1 0 6

79<+,5\*Q \*64 6 3 ( :;<\*Q ,5 3 763;0( ,?,,969+?

+<95; IQN!(4)05 3: 5<4, 96:6: 4, 4 69(5+6: :6)9 3 :0<(\*05, 5 p?06 @6+6 3 9-, 95;, ( 3:  
5,.6\*0\*065,: +, 3 64 005" 50( ,?0(5( 4, 90(5( -ZOE\*(1 L =(96: ,?7,+05;,: IQN

10 3x304 6:63(+6,;:(+<50+,5:, :(3u+, p?06, 34 04 6 +r( ,5 8<, :, 7964 <3 u 3 65:;0<\*0

J0'' • ‡ X ,59@ 3;\*/ ,9Y7 JIM#p(:, ;(4)05 ,34 ,4 695+6 +, 3 \*64 005 IN+, ,5,96+, IQO,5  
-ŽOE\*(1 L ,5,96-,)996+, IQO : 04 769(5;, 56;(98<, 36: 36:96: +, 3;\*/ ,9(37,9<(+#(\$ 0365 56  
7<+0965 36.996: )9.u5 5036: \*64 0065(+6: 4 ,?0(56: \*65 (995A 7<;: p;; , , 5,.u ( (\*,7;(9  
\*(<(3<09\*65+005 04 73\*0( 6 ,?73\*0( 7(9 8<, 3 ,?? ,+005 7<500( : , 9;09 5(4)6: \*( :6: 36:  
9 79:,5;(5;,: 4 ,?0(56: @/( )r(5 (796)(+6 (\*<,9+6: 7,96 (995A : , 5,.u ( Y94 (96: #p(5:, 769  
,14 73 3 @\*0(+ (\*9(+ , .<09( (5:0. JJ+, 4 (@+, IQN 3 +, 36: \*64 0065(+6: ;:(+<50+,5;,:  
( 36: 4 ,?0(56: JJ +, 56=04)9 @,3)699 +69+, (\*<,9+6 ,5;9 36: 4 04)96: +, 3 \*64 005 JL +,  
56=04)9 -ŽOE\*(1 L =(96: ,?7,+05;,: IQN

JP ,4 69(5+6+00 0+6( 952 632 \*65:,196+,3+,7(9(4,5;6+, ;:(+6 J+, -,)996+, IQO-ŽOE\*(1  
L ,5,96-,)996+, IQO

JQ 3;\*/ ,9/( )r( 9+(\*;(+6<5( \*(9( 7(9 (995A +,;+ ,Y5(3: +, IQN 3)699 +69:, ,5\* <,5;9 ,5-ŽOE  
\*(1 L +004)9 +, IQN ( \*(9(+ , 79:,5;(\*05 6Y\*03+, \$ 0365 ( (995A ,;:m;(4)05 ,5 3 \*(1 L  
,5,96-,)996+, IQO

KH b:, @3: :0<05;,: 7n99-6: ;;:m5)(:(+6: ,5 ,305-694 , \*65Y+,5\*03+, 3;\*/ ,9(3+,7(9(4,5;6+,  
;:(+6+,3IK+, 4(96+, IQO-ŽOE\*(1 L 4(96 6\*;<)9 +, IQO

KI !, 94 0(+ (3 .<,99 ,:6\*(4)09( 9+0(34 ,5;, 7<: 3 76:005+, 3;\*/ ,9:, ;95:-694 u\*65 9:7,\*;6  
( 3 796;, \*\*05+, 36: 0;,9:, , \*65u4 06: +, ;:(+6: " 50+6: ,5 p?06 5\*3:6 3.u( ,?79:(9, +, <5(  
4,(09 4<@+, :7,\*;0+, (995A "'' • ‡ X ,59@ 3;\*/ ,9Y77 JJKJUN

KJ \$ 03 9+ ;9 0/;( 3;\*/ ,9IQ+, 4(96+, IQO-ŽOE(04096 6\*;<)9 +, IQO

KK X-505<5( 3 @, +(9n,,-, \*65999930N|,5 7,9k00 +, 7,965( (3<5( Y 3;, ?;6 690 0(3+, 3  
\*65:;0<\*05 7<+, \*65:<3(9, ,5! ' " ‡ ‡ !,2005 73:6 #H€0



\$ ! \$ \$  
1; .7&\* - &(.& &3\*, 4(.&.b3 @MKEDA

‡~!‡Š' ‡~“<” •''‡Š•

7(99+, 3506 +, 3 , =63\*05 , ?0(5( 3: 9xyh• 3;ô™ñ PĐ



93\*05)0;,93

( 79:,5\*0 +, 6996> ,5 p?06 -<, ;9;(+( 769 (<;69: \*6,;n5,6:  
4 ,?0(56: \*65:,9(+69: \*64 6 <5( 5195\*0 5(\*,7;())3 7(9 ,37(r: 6:p  
#6

6) 99 +, 37(r.] /(\*r( .(3 +, <5 5(\*65(346 5(\*,7;()) 3 7(9 ;(+6:  
" 50+6: +65+, :, (:04 03)(, ::( 0+, 63. r( \*65, 3:6\*0 346 \*(<5+63 , :. 99 r(5  
6;96: 8<, 56-<, 95, 36: 4 04 6:

3:, \*9;(906 +, ::(+6 952 , 36. / 046 <5(+, \*39\*05 (4, 5(A5;, , 5  
IQM+65+, (+=0, 0u 8<, , 3. 6) 0956 4 , ?0(56 :, , 5\*65;9)( ( 79<,) ( (5;, , 3  
4 <5+6 7698<, 56/ () r( +, -, 5+0+6 36: 5;, 9:, :, ::(+<50+, 5:, : M m(+, 35;, ,  
, 3\*(5\*03 9Y39u ( 3 795:( +6\*<4, 5;6: -(36: @, 9 0, 9(\*65, : 6);, 50+6: (

;9=p: +, <5, :7r( 8<, / () 3) (5 +, 3 -<, 9A +, 3\*64 <504 6, 5 p?06 ( 36 8<,  
(3: 9: 765+0u \*65 <5( \*(4 7(t ( , 5 3 795:( +, 4 u\*9;( , ::(+<50+, 5:,  
(: 79: 65, : (3. 6) 0956 4 , ?0(56 7(9 \*r(5 56 :<9, 0, -, \*, 6 , 5 <5 () 096  
+, :(-6 , 3 :6569 5:, , 5=0u :0;, ) (9\*6: \*64 , 9\*03: \*65 (94 (4, 5;6 @  
=63<5;(906: ( 0(9<,) (5

7,;065,: +, (3: =,90(: 4 ,,: ( ;9m 7(9 8<, 9;99 ( /,§,3+ +,  
p?06

Â > •œ' ~ † † ' " > † œ † " ^ † † Š • ~ À

( \*64 731 \*6@5;<9 769 3 8<, (;9=:( ) (5 3: 9 3 \*65,: +,4 (5+( ) ( ,3  
564 ) 9 4 0 5 ; 6 +, <5 , 4 ) ( 1 + 6 9 \* 6 5 . 9 5 \* ( 7 ( \* 0 ( + 7 ( 9 5 , . 6 \* 0 9 @ 6 6 3 0 + . ,  
7 < : 6 : < : 6 6 : , 5 6 9 9 6 > 7 6 9 8 < , \* 6 5 6 \* r ( : < / ( ) 0 0 + ( + 7 ( 9 9 3 \* 6 5 ( 9 , \* 6 5  
( \* ; 6 9 : + 0 \* 0 3 : @ ( 3 ( 5 A ( 9 ( \* < , 9 + 6 : 6 4 6 : 6 \* 0 6 + , 6 9 ( 5 , 3 ( ) 6 . ( + 6  
/ ( ) r ( 9 \* 0 0 + 6 = ( 9 0 : , 5 \* 6 4 0 5 + ( : \* 6 4 7 3 0 + ( : @ ( 3 + 6 ( = 5 ; , \* < 9 9 0 ( : r 7 6 9  
, 1 4 7 3 6 , 5 3 5 , . 6 \* 0 \* 0 5 7 ( 9 8 < , < ) ( 9 ( 5 < + ( : , , 3 7 ( . 6 + , : < + , < + ( ? , ; , 9 5 ( ,  
, 5 1 Q 1 1 6 . 9 u < 5 ( \* , 9 ( 4 0 5 ; 6 \* 6 5 , 3 7 9 : 0 + , 5 ; , 3 9 + 6 ' ( @ : 3 6 \* 6 5 = 5 \* 0 u + ,  
8 < , 5 : ; 9 < 4 , 5 ; ( 9 = ( 9 0 : 9 - 6 9 4 ( : ( + 4 5 0 ; 9 ; 0 : @ \* 6 5 : 0 < 0 u + 6 : 7 9 0 ; ( 4 6 :  
( + 0 6 5 ( 3 : 7 ( 9 ( 3 - 0 9 3 : 0 < ( \* 0 5 , \* 6 5 u 4 0 ( + , 3 0 3 7 9 6 7 u : 0 6 + , 3  
, ? , 9 0 5 \* 0 \* < ) ( 5 ( ( 9 9 u 8 < , , 9 < 5 , 9 9 9 9 5 = ( + 0 7 ( r . : 5 : 6 3 , 5 ; , : 7 ( 9  
\* 6 ) 9 9 + , < + ( : <sup>IH</sup>

3 5 < , = 6 , 5 = 0 + 6 + 0 7 3 6 4 m 0 6 : ( ) r ( 8 < , 3 9 : 6 3 \* 0 5 + , 3 6 : ( : < 5 ; 6 :  
7 , 5 + 0 5 ; , : \* 6 5 p ? 0 6 , 9 < 5 9 ; 6 7 6 + , 9 6 : 6 : < : \* 6 3 . ( : 3 ( + = 0 0 9 6 5 8 < , 5 6  
\* 9 r ( 5 8 < , 7 < + 0 9 3 6 . 9 9 ( 3 6 7 6 : 0 0 6 7 , 9 6 p 3 \* 6 5 9 ( ) ( , 5 : < : / ( ) 0 0 + ( + , : 7 ( 9  
3 5 , . 6 \* 0 \* 0 5 @ 5 ; 0 0 ( ) ( 8 < , : 0 ( 3 ( 5 A ) ( , 3 p ? 0 6 ; , 5 + 9 ( , 3 7 9 : ; 0 0 6 7 ( 9  
0 \* < 9 0 6 5 ( 9 , 5 3 = 0 ( 7 6 3 ; 0 ( + , : < 7 ( r : < 5 ( ( 4 ) 0 0 5 7 6 : ; , 9 ( + ( 7 6 9 : <  
; 9 ) ( 6 , 5 3 ) ( 5 \* ( " 6 9 9 6 > , ; ; ) ( ( 3 ; ( 5 ; 6 + , 3 6 : 7 9 6 ) 3 4 ( : + , p ? 0 6 @ , 3 6 :  
, ? 0 ; , 5 ; , : , 5 ; 9 3 6 : + 6 : 7 ( r . : 7 6 9 8 < , : < ; 9 ) ( 6 , 5 3 \* ( : ( 6 9 ( 5 3 6 / ( ) r ( ,  
7 < , ; 6 , 5 \* 6 5 ; ( \* ; 6 \* 6 5 3 , 9 6 ( 5 0 : , \* 9 ; ( 9 6 + , ( \* 0 5 + ( @ \* 6 5 , 3 + 0 \* ; 6 9  
+ , 3 ( 5 \* 6 ( \* 6 5 ( 3 + , p ? 0 6 9 r ( 8 < , \* 6 4 6 , 4 ) ( 1 + 6 9 7 6 + 9 ( , = 0 ( 9 < 5 . 9 5  
+ ( t 6 ( : < 7 ( r : @ : r 3 6 / 0 6 : ( ) , 9 ( 6 / 5 6 9 ( 5 9 , 5 : < \* ( 9 ( + , 9 5 < 5 \* 0  
6 6 3 0 + . , 3 + 0 6 ( 3 5 6 = 3 9 7 9 ; , 5 ; ( 5 ; , 8 < , 3 : + 0 \* < 3 ( + , : \* , 5 ; 9 3 : 7 ( 9 3 6 . 9 9  
< 5 2 4 ) : 8 ; , \* 3 ) . ; , 4 7 6 9 3 \* 6 5 p ? 0 6 , 9 5 3 : : 6 : 7 , \* / ( : @ 3 - ( 3 ( + , ( 7 ; 0 < + , :  
+ , : < : . 6 ) , 9 5 ( 5 ; , : @ 7 6 9 , 3 6 : , 9 8 < , 9 ( + , < 5 4 , + 0 + 6 9 \* 6 5 / ( ) 0 0 + ( + , :  
, : 7 , \* 0 3 : <sup>IJ</sup>

" 5 4 , 4 6 9 5 + 6 + , 3 : , \* 9 ; ( 9 6 + , 3 , 4 ) ( 1 + ( 9 / < 9 3 0 : ( 5 , ( 3 8 < , ; < = 6  
( \* , : 6 6 9 9 6 > 9 ( 3 0 u < 5 9 \* < , 5 ; 6 + , 3 - 9 \* ( : 6 + , 3 + 0 7 3 6 4 ( \* 0 + , 4 ( 5 6 + < 9 @  
9 \* 6 4 , 5 + ( ) ( < 5 ( 7 6 3 ; 0 ( , ? , , 9 6 9 8 < , ; , : < = 0 9 4 m ( 3 m + , 3 6 : 5 ; , 9 : , :  
7 9 9 + 6 : , 5 + 0 - 0 < ( 3 : 7 ( 9 4 , 1 6 9 9 3 9 3 \* 0 5 ) 0 3 ; , 9 3 ! ( 4 ) 0 5 ( + = , 9 r ( 3  
0 4 7 6 9 ( 5 \* 0 8 < , ; , 5 r ( : ; + 6 : " 5 0 + 6 : 7 ( 9 3 , ; ; ) 0 0 + ( + , 3 . 6 ) 0 9 5 6  
4 , ? 0 ( 5 6 <sup>IK</sup> 6 9 : < 7 ( 9 , 6 9 4 ( 5 ( = 0 9 5 ( 5 \* 0 9 6 @ 7 6 3 ; 0 6 + , 4 u \* 9 ; ( : , t ( 3 u  
, 5 : < \* ( 9 ( + , - , 3 0 ( \* 0 5 ( 6 9 9 6 > X 6 : 4 , ? 0 ( 5 6 : : 6 5 3 6 : 4 m + 0 \* 0 3 : + ,  
; 9 ; ( 9 + , ; 6 + 6 : 3 6 : 7 < , ) 3 6 : 3 ; 5 6 ( 4 , 9 0 ( 5 6 : 7 , 9 6 4 , : , 5 ; 0 9 ( : ( ; 0 - , \* / 6 : 0





,=63\*05 ,?0(5( ,5 76\*( : 7(3)9: 3.993 ,::()00(+ +,3.6)0956 0  
p?06:, \*65=,9r( ,5 <5 7(r. ,::()3 @, . <96 3: 5:, 9:, ,::(+<50+,5:, : @  
+0=,90\*(+6: 769 ,5;65\*,: , , ) ,5, Y\*09(5 +,3 \*9\*04 05;6 , \*65u4 06 @  
(+,4 m\$ (:/ 5. ;65 ;,5+9( ( <5(3)+604 769(5; , ,5 3 9. 05  
<95;, 3 :. <5+( \*65-,95\*0 (3: (\*,7;u 8<, : , +,::;9)(9 3 +07<;(  
7,;9639 4 ,+05;, <5 -(36 +, 3 <794( 69, ,5 -(=69 +, 36:+,9\*/6:  
(+8<00+6: 769 3: ,4 79:(: 379:0+,5;, : , 8<, 1u +, 8<, 36: 7,;96396: 56  
8<00965 5, .6\*09\*65 p3@796\*34 (965 8<, 56 6), +, \*,9(5 3: 3@: \*39u  
8<, 56 7,5:() ( ,?7967096: 7<, : ,37(r. 5,\*,:0() ( :<: 04 7<,::;6: @8<,  
\*5\* <,5;( (t 6: ,9 ;04 76:<Y\*05;, 7(9 796;,.,9\* <(3<095,.6\*06 (3+05+6  
( 3 3 @+, IQM8<, ,::()3 \*u \*65\*,:65,: 769,::, 5x4 ,96 +, (t 6: 696> 3  
+06 8<, +, :+, , 37<5;6 +, =0;( 79m;06 ;,5r( 9 Au5 7,96 8<, 3: \*65\*,:65, : ( 7,97,;<0(+ ;958<00A)(5 36: ;,4 69: +, 8<, <5 5<,-6 9p. 04 ,5 7<+09  
9+<\*0 ,37,96+6 10 5?)87A Y 35U,+



' % " OE % š • † • ~ † ~ • • > " † TM' > % ©' • " š < ~ " < Š • †

! 6\*() ( (/ 69 (-95;(9,3796) 34 ( +, 3: ,?79670 \*65, : (.990: ( \*Q+(+(56:  
,:;(+(50,5,: 7(9 +6;(9 @967.ÓP





‡™%” œ”%” ‹™

5 8<, :, 9ÿ,9 ( 3 65=,5\*05 ,5,9(3+, ,\*34(\*65,: ] 8<, ()(9\*()(  
+,4(5+(:,;(+<50+,5:, : @4 ,?0(5(: ,5;9 IPJL @QK:(3-6 ,37,96+6 +, 3

;g)(1)( ,5

69(5 @\*gr( 8<, p:

4, 169(4)05;, 763;06<sup>JP</sup> 3979:, 5;(5;, 7(\*;u +6: 9 <5065, : , 5;9 <92, @  
(3: , 5 IQIP ( 3 x304 ( (\*<+0u , 3(9A6)076 , 6763+6 <0A @ 369: @:,  
05;, 9(4)0965 <5(: \*(9(: , 3)69+( : 769 6996> , 5 3: 8<, 3 .3:0  
(\*69+)( 9(5<+(936: \* <36: @ (3: , :;0<3)( 8<, 56 8<, 9( 05;, 9=, 50, 5:<:  
( :<5;6: 05;, 956: 95 ;, ?;6: ., 5, 93: 8<, 56 () 6000

,5

‡ Š' • " ‡%‡% 'š' ~ ‡'

(9 , ?73)(9,3=

, \*65u4 0( +, IQIQ

(:0\*64 6 <5 , :6 +. +:7 +0( , 6996> 69 (50Au <5( , ?76:005 +, (9,:  
4, ?0(5(: 65 :<7(;9\*50 @, 3+; 3 (95,.0 6<5+(;65 3 4,90(5  
\*9:65 6/9: @3 \*8:(9( + +<(\*05 x) 3( D<sup>M</sup>-E 3\*<9+69-<,  
W(565 6<9 8<05 ,5,,5+r( 3: (9,: 3(3: \*64 6 ,?79:65,: +, 3  
\*0-0A \*05 4 ,?0(5( 56 \*64 6 \*670: +, 3 ,?;951,96 ( , ?/0005 ,9 <5  
9 \*6990+6 +, \*5\*6 :0 3: 769,3(9, @,3(9, 767<394 ,?0(56 ( 7(90+, 3  
658<0;( @/(:( ,3:0 3 žž 5,,: +, 3=(93 ( :;(+6: " 50+6: -<,  
5(<. <9+( ,5 3 <sup>TM</sup>- ,5 1506 +, IQH 5\*3r( 70A: žž Span 4,m(5."2(:







"

88\*-5745.&(.43\*82 \*=(8388>\*12 83\*/4) \* 1&7\*18(.b3' .1897&1 @G EMDA

† • • •

5 6: (t 6: ;9 5;( +, 3:0 6 7:(+6 3: 9 3\* 65,: +0 64 m,0 (: ,5;9 p

+6;(\*05 , 1(3 8< , :0)05 :, /()r(5 ,:;( +6 3=(5+6 ( \*())6 +,:+, 3 +p\*(+(  
(5;,969 :, 5;5:0\*(965 ( 7(9,9 +, +0/( 3.

<;q @\*;690 763;0( 8<, \*64 ,5Au(3\*(369+, 3 \*(4 7(t( +, \$ 0304 9@5  
,5 IFQN 3 3=u( :,9<5 4 0 4) 96 +,;:(\*(+6 +,3 64 0p (\*065(3+,3 (9,0+6  
,4 u\*q;( 7,96 :< (\*;00(+ 796-,:065(3 -<, 3 +, ,+069 +, 7,90u+06:  
04 769(5;:,5 (9635( +,3 69, (16 3 79:0+,5\*0 +, \$ 66+96> \$ 0365 -<,  
:, \*9;(906 +, (95( \*6@5;<9 ,5 3 \*(3-<, 9 :765:() 3 +, 3 6\*<7(\*0u5  
4 00(9+,37<,96 +, #,9\*9<A\*64 6 7(9, +, 3 \*(4 7(t( +, \$ 0365 \*65;9 3  
+0;( +<9 +, #0;690 56 <,9( (503 -<, <5( Y.<9 7964 0,5;, ,5 3:  
\*r9<3: +,4 u\*q;(: :<9 t 6: @,5r( 9,3\*065,: +, (4 0;(+ @ 30 5A 763;0( \*65  
66:.,=3 8<05/() r( :0+6:<:<) 69+0(+6,5 3 , \*9;(9( +, (95( " 5( =,A  
8<, ,3\*(4) 06 763;06 9 05:(3u( 3: +,4 u\*q;(: ,5 3 79:0+,5\*0 ,5 10K;9:  
+6\*, (t 6: +, 79+64 00 9 7<) 30(56 (503 4 6:;9u 05;, 9p: 7696\*<7(9(3x5  
\*09 06A 3769(5;, @7<,;:6 8<, 56 -<, 76:0 3 8<, =63-09 ( 3 , \*9;(9( +,  
905( 4(050; u:<+,: ,6 769,37<,;:6+, ,4)(1+69,5 p?06  
: 79\*06 ,5;,5+,9 3: 9 A65,: 769 3: \*(3: (503 :, \*65=0,0u ,5 ,3  
,4)(1 W•ÒÀ

,5;9 3: +6: 5<5\*( ;<=6 <5 ,:;06 198<06 @, ,?79:u:0479 ( ;9=p +,3  
9.0;9\*65Y+,5\*Q3+, X ,(9 903

70+0 (3 , 4) (1+69 0; , 5:0\*(9 :<: \*65=, 9(\*05,: (3 9:7, \*,6 \*65 3:  
-<5\*05(96: 4 , ?0(56:

/()r( (:, . <9+6 8<, 3 3 @56 , ::;() ( +00 0( , 5 \*65;9 +, 3\*(70(3, ?;9 51,96 @  
3: , 4 79:(: , ::;(+<50+, 5:, : 3: \* <(3: p?06 9 8<, 9( @, 9 5 ) 05=, 50+( : @  
8<, +, 3. (9( 7964 <3(9, 3 3 @56 :, (73)(9( ( 3: X5+<:;90: 799+( : Y  
<\*, : 0(4, 5;, (503 ;9 5:4 00u <5 ) 63;r5 6Y\*03 +, 3 (9 0+6 (\*65(3  
, =63\*65(906 , 5 , 3\* <(3:, (9 <4, 5;() ( 8<, 3 3 @, 9 , 5 3 , : , 5\*03 <5(  
(\*; <(3A \*05 19+0( 7(9 , 4 7(9 193 \*65 3: +076:065, : \*65:;0<\*65(3: JJ  
( 05-694 (\*05 ;9 5:4 00+( 769, 3, 4)(1+6956 \*65=, 5\*0u ( 3: -<5\*65(906:  
+, 3 +, 7(9(4, 5;6 +, ::;(+6 8<, +, ;, \*;(965 , 3 . 9 5 4 (9, 5



+ , 3 ( : < 5 ; 6 @ 8 < , , 5 9 ( 3 + ( + : < 6 ) 1 ; 0 6 7 9 0 4 ( 9 0 6 / ( ) r ( : 0 6 , 3 + , ( 7 < 5 ; ( 3 9 3  
7 6 : 0 0 5 @ 3 7 6 : ; < 9 + , ( 5 0 3 ( 3 \*\* 0 5 9 : < 3 u \* 3 9 , 5 , 3 : , 5 ; 0 6 + , 8 < , , 3  
(\* , : 6 + , 3 , 4 ) ( 1 + 6 9 ( 3 7 9 : 0 , 5 ; , , 9 < 5 - ( \* ; 6 9 8 < , , : ; ( ) ( 7 6 9 , 5 \* 0 4 ( + , 3  
+ , 7 ( 9 ( 4 , 5 ; 6 + , : ; ( + 6 7 ( 9 0 + , : , 4 6 4 , 5 ; 6 , 3 , 4 ) ( 1 + 6 9 + , : ( 9 6 3 u < 5 (   
( < ; 6 5 6 4 r ( 7 9 6 . 9 : 0 ( \* 6 5 9 : 7 , \* ; 6 ( 3 7 6 3 ; 0 ( @ 3 : 6 3 4 ; \* 6 5 , : + , 3  
+ , 7 ( 9 ( 4 , 5 ; 6 8 < , . , 5 , 9 u \* 6 5 ; 9 6 = , 9 0 : ( : 9 5 \* )



,5 +004)9 +, 1006) 3u ( ,3=(9 3: :<, 3-6: 769 <5 4 65;6 +0\*;6 +, JN  
4 035, : +, 7, :6: 4 m <5( ,?;, 5:( :, 90 +, 79 :: (\*065, : <5 \*65k5;6 +,  
, ?0, 5\*0: 8<, 3: , 4 79:( : 1A (965 04 76: 0 3: +, \* <4 739; 64 (5+6, 5 \* <, 5;(   
3 9 +<\*05 +, : <=63<4, 5 +, . (5(5\*0: @, 5 \*65;9 +, 3\* <(305; , 97<: 0965 <5  
(4 7(96, 5 3 <794 ( 69, <sup>KJ</sup> 5  
::, 798\*00; 6 \*, \*9<A#AIP\*65 3 5, . 6\*0\*05 , 5 +004) 9 +, 100+, <5 \*65=, 506  
)0;;, 937(9 3 \*64 79 +, 73;( 4 <@=(=69) 3 7(9 p?06 8<, . 9\*0: ( p: ,  
=, 5+r( , 34 , ; (3) 3 5\*6 (3! , : 696 , ; ; (+<50+, 5: , ( 79 \*06: : <7, 9069: ( 36: +,  
4 , 9(+6 ) 0-6 ( , 36 , 3+, 7(9(4, 5;6 +, : ; (+6, : 7, 9u 6) ; , 5, 9 ( \*(4) 06  
(3x5 \*64 7964 06 +, , ?0 09(+ 769 7(9, +, p?06 , 5 93\*05 \*65 , 3  
\*65 0; 6 \*65 3 : 9, 4 79:( : 7, ; 9639: , 96, 3 (\* <, 9+6 +, 3 73;( : , 9(3Au : 05  
\*65; 9(7(90+( : , ?73\*0( : +, 4 (5, 9 8<, <3@, 3+, 7(9(4, 5;6 +, : ; (+6 56  
+0765r(5 9(34 , 5; , +, (94 (: +, 5, . 6\*0\*05 5 4 (96+, 100P <5( =, A8<, , 3  
-(36 +, 3 <794 ( 69, 9 : <3u +, : -(=69) 3 7(9 3: , 4 79:( : 7, ; 9639: @  
p: ; ( : 4 (50, : ; (965 : < 9: 0; , 5\*0 ( (\*; (96 n9+, 5( : +, \*9; u +, -694 (   
054 +0( : 3 279670 \*05 +, 3: \*64 7(tr( : 7, ; 9639: ) 90m50( : @  
\$-7gp6 0k P : 01 23519W1010200 8Y03K00\* 9  
; : 6 <505, 5, . , +  
, 96 (5; , : +, : 0<(9 ( (503 , 5 , : , : \* , 5(96 7, 7 ; ; 339, 6•2Y



6:;, 9694, 5:, ,:63 :0=0u( n9+, 5(: 7(9 4 (50, :;(98<, \*65 9:7, \*;6 ( 3  
, ?79670 \*0u5 7;, 9639 5<5\*( :, /())r( 9 \*0 0+6, 5 p?06 <5( 56;( +, 796;, :;(   
\*64 6 ;(3 769 7(9, +, :;(+6: " 50+6: 3 8<, 04 73)() ( <5( ,:7, \*0 +,   
(796) (\*0u5 04 73\*0( ,:6 , 5-<9 \*0u ( <3 @ (3+, 7(9(4 , 5;6 +, :;(+6 (3   
7<5;6 +, , 5=0 9<5( -<, 9, 9 7904 , 5+( ( (503 +65+, :, 3 9:765:() 00A) (   
7693 . 9=, 64 00u5 <sup>u</sup>

5:, 3 76:;<9 9. 0+( +, 3. 6) 0956 4 , ?0(56 ] , :;6 , : 8<, 3 +, \*00u5 +,   
, ?79670(956 ;, 5r( =, 3( (;9m] , 3+, 7(9(4 , 5;6 +, :;(+6 5;, 5;u 9 \* <999 (   
3 79:0u5 , \*65u4 0( 3 \* <(39 :<3u :, 9<5( 4 (506) 9 \*64 73;(4 , 5;, 5, Y\*(A   
(: \*64 79: 4 , 5:<(3: +, 73;( 4 , ?0(5( 9 79:, 5;(965, 3) 3 5\*6 795\*07(3 @3   
. 6) 0956 569, (4 , 90(56 3: :<:7, 5+0u , 5 , 34 , : +, 4 (946 69 :< 7(9,   
n9+, 5(: 5:;9<@ ( 3 , \*9;(9( +, , 3 \*65, : 7(9 8<, 4 6=00A 9 (34 04 6   
, 4)(1+69 , :;(+<50+, 5:, , 5 \*65;9 +, , :;( 4 , +0+( 34 , 5;(5+6 8<,   
\$( / 5.;65 8<009 =5 \* <3 9 3 \*64 79 +, 73;( 8<, , 5 3 5;, 979;(\*0u5   
4 , ?0(5( , 9 <5 (:<5;6 7<9 4 , 5;, X, . 6) 0956 ( . 6) 0956Y +, :3(+6 +,   
\* <(3<096) 3) (\*0u5 (+0 65(3 \*65 3 \*65;96=, 90 , 5;9 , 4 79:(: 7;, 9639: @   
. 6) 0956+, p?06 <sup>u</sup>

5, -, \*;6 (503 \*900u 3 5;, 99<7\*0u5 +, 3 (+8<000u5 +, 73;( @\*65:<3u   
\*65 , 3:, \*9;(96 +, 3!, :696 69 , 5;/ (< \*u4 6 \*65;9 99 :;(99 , 5 , 3\*65;, ?;6

( 50

7904 ,

\*65;96=,9Q 7,;963q \*65 3 8<, ,3 +,7(9(4,5;6 +, :;(+6 79;,5+0u  
+,;) 38<,(9,3.2588\*,51QQ:5 3. 9 96 (3(t6:0<05;, , ,4 7,Au( =,5;09  
3 76:0 00(+ +, <5(99. 3.,5,93+, 3: \*<,;05,: 7,5+05;,; ,5;9 p?06 @  
:;(+6: " 50+6: @\* <(5+6 (503 70+0u 5:9<\*\*05,: 7(9 ,?7399,3;,4 ( \*65  
n9+,5(: 3 9:7<,;:( ;(9+r( @3\*u50( -<, 8<, ,9 4 , 16976:765,96 7(9 6;96  
4 64 ,5;6<sup>M</sup>

?73(93: 9 A65,: +, ,;,, +,;,53\*, 9 8<09 796<5+0A(9,5 3 5=,;:0(\*0u5  
(<5 (:r ,: 76:0 3 0+,5;0\*(9 36: 795\*07(3: 4 6;06: 8<, +,;,94 5(965 ,;:(  
(3,9\*0u5 +9m;0( +, 3 76:0 0u5 +,3,4)(1+69 0)05 7<+6(7(9\*,9\*64 6<5  
\*(;:06 763;06 769 3 56):,9=(5\*Q 6 ,3 9\*/(A6 +, 3: 5:;9<\*\*05,:  
1,998<0(: ,:6 56 \*65:;0<@ ,3,34 ,5;6 795\*07(3 ( 9 3\*0u5 +, (503 \*65  
,3+,7(9(4,5;6+, :;(+6/ 06 04 736:0u5 +,)0+6( 3 +,:\*65Y(5A( 8<, 7904 u(  
7(90+, 10P 56:u36:6)9 :<(\*;<(\*0u5 :56(+,4 m:6)9 3 5-





• " 0/00 TM " < TM

3, = (3(9, 37(7, 3+, (503 , 5,

5,::, ;, ?;6 \*88)

IJ ~ †• 485:8 5 :< 4,4 690: ,3:,\*9;(96 +, :;( +6 <3\*(3)\*u ( (503 \*64 6 X<5 ;(5;6  
+,4 (:Q+69+0(37(q 4 0 .<;6:Y ›’’ - \* \*24.78 =63 7 IRJ

IK ’ ППМ” , 7&7.83 7883,8 77 QKQ

IL 66: ,= 3 \*64 6:<):,\*9;(96 +, (95( /())r( :0+6 <5 :<) 69+5(+6 +,

**KK** #p(:, 3 9\*65;9<\*\*05+, " •• Žš X /, 630:Y 3796\*,:67<,+ ,:.,<0, 7(9034,5;,( ;9=p+ ,  
36: +6\* <4,5;6: 9\*6704+6: ,5 9/06 0;u906 0734 m06 ,?0(56 &\*5745.&(b3

**KL** m3<3: )(:(+6: ,5 •—ÿ .1 77 IPHIR ‡"•"• 2\*7.(83 .1 77 JLLJLN ~••" X /,  
;9\*;<9Y

**KM** <' " ‡" 4) \*.,-' 47 77 M NN

**KN** (503 ,5 :< \*(3+(+ +, .,\*9;(93Å

79:0,5,, +, ;,; (9\*63+0+6\*65 3: \*64 7(tr: 7,;963-, q: (503 ( 66:, = 3 7,965(3 IL +, :, 7;04) 9  
+, 100,5 %Z' < 783013 448; \*9=63# 77 LNLND

[M](#) <'< &.P ;A\_ C 1



' ‡" %‡! • ~ ~ ‹ TM

,69 , ,::,94 0/ 3.u ( p?0 .u‡



-<, \*(:<(38<, :, Y94 (95 (5;,: +,3(;(8<, 8<, +09 7(:6 ( 3 54 ,+0;( +,\*39\*05 +, .<,99 +, ::(+6: " 50+6: ( (7u5<sup>k</sup> :6: (\*<,9+6: :,5;(965 ;(4)053:)(:,: 7(9 3 \*667,9\*05)0; ,93,54 <\*/6: ;,9956: \*65:0+,9+( 769,3.6)0956 ,:;( +<50+,5:, 04 75(

(3<56: +, ,36: ;0  
Y(3+ 3 3: 3:  
0: 9(00 +, 3  
/, 4 0-, 96 (4  
<5 3+6, 36;,  
, 5 p?06  
5 ,::, \*(7r;<3  
, 4)(1+69 ,::, 94  
, 3\*\*05(4 6: ,:(  
01 709(5;,: 6 76: 0 34  
55 3 0; 5\*05 +, :<) 9  
+, \* 56: @, 5 +0; 6: 4 6 50:6: , 5  
03( 5% 0(9 3 796; , \*\*05 +, :< : , 05: 0, 9 4 6: x; 03  
4, 5\* 65(9 56 6):: (5; , 8<, :0) 0 : : 94 0/ u : 04 79 (3\*(5\* 03 9  
4, ?0(56 A 8<03 90, <0< / 3 69 @ 6; 9 9 @

3 <56: (<69: / (5 :, t(3+6 8<, , 35<, =6 , 4)(1+69 7, 9, 5, \*r( (3. 9<76  
+, 5;96+, 3+, 7(9(4, 5;6+, :;(+6 8<, +, :+, 36: (t 6: ;9 5;( (76@)( <5 ;9;6  
:<(=, /(\*0 36: 7(r, : 3;56(4, 97(56: ;(5;6 , 5 36 8<, :, 9-, 9( ( (:<5;6:  
)0;;, 9 3: 7, 5+05;,: \*64 6 76:;, 9694 , 5;, 9:7, \*;6 ( :< 76:005 -95;:, (3  
\*65 0;6)p36 6: 7994 , 96: +, 564 5(+6: X3;56(4 , 97(50;(:Y \*65;5<() (5  
\*65 3 35,( +, 56 5;:, 9=, 5\*05 @56 5;:, 9, 9, 5\*0 ( ;9) <0+ ( ( 3 X763;0( +,  
<, 5( #, \*5+(+Y 04 7<3(+ ( +, :+, =966: (t 6: (5;,: 769 , 3 79:0+, 5;,  
66: , =3 36: : , . <5+6: 36: X5;:, 95(\*65(3);(:Y -(=69 \*r(5 3: 79:65, : @  
9, 79:(3): 763;0(: @, \*65u4 0(: ( (8<, 36: 7(r, : 95<, 5;,: ( (+, 99, ( :<  
(. , 5+( , 04 7<3()) (5 <5( =005 . 36)(3@56 9. 65(3\*(+ ( =A\*65 4 m -<, 9A  
<) 9 @) (5 8<, , 5, :6: 4 64 , 5;6: , 36) 1;0-6 \* , 5;9 3+, ) r( : , 93 <50+(+, 36:  
(3)+6: 7(9 =, 5\*, 9 (3 1 || 5 , 3 7994 , 9 . 9<76 +, :;(\*) ( <4 5, 9 \$ , 33:  
:<): , \*9;(96+, :;(+6 7(9 4 p97( (;5( 4 05;9: 8<, 69+, 33 <33; , 5+r(  
( (76@9(3: , . <5+6<sup>1j</sup> 3 : (3+( +, (4) 6: +, 3+, 7(9(4, 5;6+, :;(+6 <56 @  
6;96. 9<76, :;(9(5, 5\*(), A+6: 769 , 365 6\*2, -, 39@ +>(9+ ; , 3 50: 1k  
: 76:0 3 8<, 3 (+, :05 +, , : , 94 0/ ( (8<, 36: 8<, -(=69 \*r(5 , 3  
4 (5; , 504 05;6+, <5( 763;0( +, <, 5( #, \*5+(+ 5 <@9 , 5 3 : , 3 \*\*05 +, 3  
, 4)(1+69 8<, : , ( ;9) <@ ( 66: , =3 <95; , ;< : (5\*0 , 5 p?06 , 35<, =6  
, 8 ) (1+69 6\*( :65(34 , 5; , : , \*64 <50()) ( 769 , : 906 \*65 , 3 =+ 5Y:3"€(



56, 5\*65;9)( 9\*, 7;0=0(+, 5, 3+, 7(9(4, 5;6+, :;(+6 :0) 05 <5( 8<, 6;9  
=, A:<. 00 6765, 9, (, 3):  
0, 0) 05, 3+ 764 m 06 5694 (3, 5, :; #79 :<9u ( \* <4 739 \*65 +00, 5\*0 3:  
0, 0) 05, 3+ 764 m 06 5694 (3, 5, :; #79 :<9u ( \* <4 739 \*65 +00, 5\*0 3:  
0, 0) 05, 3+ 764 m 06 5694 (3, 5, :; #79 :<9u ( \* <4 739 \*65 +00, 5\*0 3:  
4 6;:9u \*39 676:005 ( 8<, 3, 4)(1+( :, , 5\*(9(9 +, 3: 5,. 6\*0\*65, :  
(3.(5+;, 0"220962(2( 3

3;56(4 , 9\*(56: 76938<, +6506 (<5( 5;, 5:( \*(4 7(t( +, 7967(. (5+( , 5  
;6+( 4 p9\*( (;5( 7(9 (35;(9, 37(5(4 , 9\*(504 6 @ 3(766 ( 3: (3)+6:  
8<, +, :

3 +,

3 \*63) 69 \*05 ,5 ,3;, 99 56 4 00(9 ,5;9 3: +6: 7(r,: 8<, ,3.6) 0956  
4 ,?0(56 7x) 3(4 ,5;, ,5\* <(+9u +,:+, 4 ,,: (5;,: ,5 ,34 (9\*6 X, 3 +,-6 0



( 3: 7,;065,: ,;(+<50+,5:,: ;(5;6 ,5 6 9-,95;, ( :6)9=<,36: +, :<:  
(=65,: :6)9 ;,999696 4 ,?0(56 \*64 6( 3 3).(+( +, ) (9\*6: @=65,: +, 37(r:  
=, \*66 ,5 :<;95:06 / (\*0 , 3\*(5(3 , 4 (5;<=6 3 5,.(;0( (3,;()) 3\*04 05;6  
+, ) (:, : 6 (3+, :73).<, +, -<, 9, : \*65;6. , 5,; : +, :63(+6: ,;(+<50+,5:,: , 5  
;, 999696 4 ,?0(56 7, 96 : , \*63) 69u , 5 3 79=, 5\*05 +, 6Y39\*65,: @  
:()6;(1: +, 7(90+(96: 6 (., 5,;

' ‡~•œ™” ‡“ •“” š• Š< ~•Š> %š•™™Š” ‡š•œ•%™Š< ~•“ <~ ‡  
” <%™ŠŠ

<@76\*6 +,:7<p: +, :< 3).(+( ( p?06 ,::,94 Q/ ;<=6 ( :< \*(96  
79:,5;(9+0\*;(4,5,, ( \_=0 (4(\* /6 3 7967<,::( +, \$ (: / 5.;65 :6)9  
\*64 79: +, 3 796+<\*\*05 6 \*6:,\* / (: \*64 73;(: +, (3<56: )05,: 4 ,?0(56:  
8<, 5 ;04 76: )p06: (+8<00965 ,3\*(9ñ;,9+, ,:;9;p.06: \*64 6 ,3/ <3 @  
(3<56: 4 5,93: @ (34 ,5;6: (+,4 m +, 6-9 \*,9 (76@ ,:;( +<50+,5:, 7(9  
(<4 ,5;(9 :< 796+<\*\*05 <sup>k</sup>

8<, p?06 9 \*0 r( <5 4 , 169;9;6 , 5 , 3:<4 50;96 +, 4 <\*/ 6: 796+<\*;6: 8<,  
6;96: 7(r.,: 3;56(4 , 90(56: 096 ,: 8<, 3 796=005 +, ) 05,: 5+<::90(3:  
-(\*00)(+ (;(4) 05 7693 \*64 <50(\*05 ;, 99::9 , 5;9 (4) 6: 7(r.,: -<, 4 (09  
8<,



\_=~~Q~~ (4(\* / 6 ;, 5r( . 9 5 ~~Q~~; , 9p: <sup>LQ</sup> ( 76: 0 ~~Q~~)(+ +, <5 \*9p+06 4 m (4 73~~Q~~ @  
+, 4 m 3 9 6 73 A6 9 : <9 0 u , 5 4 m +, <5( 6\*( : 0 5 7, 96 56 : , ; 64 u <5(  
+, \*0 0 5 (39 : 7, \*; 6, 5 ; 6 + 6, 3, ? , 5 0 6

( 76: ; <9 + , , ::, 9 4 0 / , 5 -(=69 +, 39 . 9 : 6 +, 3 : \*64 7(t r( : 7, ; 963 9 :  
 , ::(+<5 0 +, 5 : , : ( 3 796 + <\* 0 5 + , 7, ; 9 3 6 4 , + 0 5 ; , \*65 ; 9 ; 6 : \*65 , 4 , ? 6  
( 3 <5( 6 ; 9 4 6 + ( 3 + (+ - <, \*3 9 + , : + , 5 ; 65 \* , : 4 , 5 < + 6 + 0 \* < ; 0 u + 0 ; 5 ( :  
796 7 < , :: ( : \*65 , 3 4 ( 5 + ( ; 9 0 6 4 , ? 0 ( 5 6 ( 8 < 0 5 \*65 : 0 + , 9 ) ( + 0 7 < , :: 6 (   
\*65 : 0 + , 9 9 , : , 9 . 9 : 6 <sup>MH</sup> (<5 8 <, 3 6 4 m 796 ) () 3 , : 8 <, , ::, x 3 0 4 6 3 8 < ,  
; 9 ; ) ( + , / ( \* , 9 , 9 . ( 5 ( 9 ; 0 4 7 6 3 + 0 7 3 4 m 0 6 ( ; 9 ) < r ( ( < 5 ( : < . , 9 5 \* 0 + ,  
m 9 + , 5 ( : 8 < 0 5 \*65 ; 5 < ) ( 6 7 6 5 0 5 + 6 : , ( , 3 6 , 3 5 < , = 6 , : - < , 9 6 4 , ? 0 ( 5 6 + ,  
6 ) ; , 5 , 9 < 5 7 9 p ; ( 4 6 ( 4 7 3 6 <sup>M</sup> 0 + 0 u ( < 3 8 < , ( 7 9 6 = , \* / ( 9 , 3 = 0 1 + , ( + 0 3 (   
\$ ( : / 5 . ; 6 5 ( 4 , + 0 + 6 : + , 1 0 1 7 ( 9 9 0 , 9 9 8 < , 3 9 . 9 : 6 + , 3 : \*64 7(t r( :  
7, ; 963 9 : ( 3 : \* ( 4 7 6 : 4 , ? 0 ( 5 6 : , 9 3 8 < , + , : , ) ( : < . 6 ) 0 9 5 6 @ 8 < , 5 6  
 , :: ; ) ( + 0 7 < , :: 6 ( 6 ; 6 9 ( 9 < 5 7 9 p ; ( 4 6 ( , 4 , ? 7 ( 9 4 , 1 6 9 9 3 : 0 < ( \* 0 5 + , 3  
5 + < ; ; 9 0 <sup>M</sup>

< ǎž°% ‡ > ‹” • TM • ‹ TM Ÿ Š ‹ ~ ‹ • ~ ‹ TM ‡ ǎž°% ‡

7(9 0 +, 1 Q M , ::, 9 4 0 / : , \*65 = 0 0 u , 5 , 3 ) 3 5 \* 6 + , \* 9 ; 0 ( : + , 7 6 3 ; 0 6 : + ,  
3 0 8 < 0 9 + ( 4 , ? 0 ( 5 ( 6 4 ) ( 9 + 6 ! 6 3 + ( 5 6 + , \* 3 9 u 8 < , 5 ; , 9 : , :  
 , :: ; ( + < 5 0 + , 5 : , : ; ) ( 5 7 9 6 7 6 9 \* 0 6 5 ( 5 + 6 ( 9 4 ( : ( 3 : : 5 ( 9 8 < 0 ; ( : ( 9 r A + , < 5  
\*65 0 ; 6 , 5 , u 5 < ( 5 ( k ; 6 < ) 6 ( \* < : ( \* 0 6 5 : 7 x ) 3 ( : + , 8 < , 3  
+ 0 7 3 4 m 0 6 ( 7 6 @ ) ( ( 3 : 6 7 6 : 0 6 9 : ( 3 9 p . 0 4 , 5 <sup>NK</sup> 3 7 , 9 0 u + 0 6 & ! 4 ? ) \* \_ = ( 4  
D , 3 ( 9 0 + 6 6 4 < 5 0 ; ( , ? 0 ( 5 6 E + , \* 3 9 u 8 < , 3 . 6 ) 0 9 5 6 4 , ? 0 ( 5 6 + , ) r ( :  
6 3 0 ( 9 , 3 9 4 7 3 A 6 + , , ::, 9 4 0 / 7 6 9 < 5 7 ( 9 0 + ( 9 0 6 7 9 6 ) ( + 6 + , 3 7 6 3 ; 0 ( + ,  
< , 5 ( # , \* 5 + ( + 7 6 : 0 0 5 8 < , 3 + 0 7 3 4 m 0 6 ( ; 9 ) < @ ( 5 : ; 9 < \* \* 0 6 5 : , + , 3  
. 6 ) 0 9 5 6 : 6 = 0 ; 0 6 , 3 \* < ( 3 7 9 ; , 5 + r ( ( - , \* ; ( 9 5 , . ( ; 0 ( 4 , 5 ; , 3 ) < , 5 ( 9 3 \* 0 5 8 < ,  
/ ( ) r ( , 5 ; 9 : < 7 ( r : @ p ? 0 6 3 5 - 6 9 4 ( 9 + , :: ; 6 : ( \* 6 5 ; , \* 0 4 0 5 ; 6 : ( 3  
+ , 7 ( 9 ( 4 , 5 ; 6 + , :: ; ( + 6 , ::, 9 4 0 / : < ) 9 @ 8 < , = ( 9 0 6 : 4 , ? 0 ( 5 6 : 3 / ( ) r ( 5  
 , ? 7 9 : ( + 6 : < ( 7 6 @ @ 8 < , : ( ) r ( 8 < , 3 7 9 6 7 0 6 \_ = ~~Q~~ ( 4 (\* / 6 / ( ) r ( ( Ÿ 9 4 ( + 6 , 5  
< 5 ( \* 6 5 = , 9 ( \* 0 5 \* 6 5 < 5 ( 4 0 6 \* , 9 ( 5 6 8 < , \* 6 5 : 0 + , 9 ) ( 8 < , X 5 < 5 \* ( / ( ) r (   
/ ( ) 0 + 6 < 5 ( 4 0 6 4 m : 5 \* , 9 6 8 < , @ C , 5 3 , 4 ) ( 1 + ( ( 4 , 9 0 ( 5 ( 6 < 5 ( 7 , 9 6 5 (   
8 < , 5 ; , 5 + 0 9 4 , 1 6 9 \* ( + ( - : , + , 3 = 0 + , p ? 0 6 Y <sup>M</sup>

:: 6 : , 3 . 6 : ( : r 4 0 4 6 , 9 5 7 6 : 0 3 4 , 5 ; , ? ( . , 9 + 6 : 7 , 9 6 / ( @ 8 < , 9 \* 6 5 6 \* , 9  
8 < , = 0 ; ( , 5 \* 6 5 k 5 ; 6 3 . , : ; 0 5 + , , ::, 9 4 0 / 3 \* < ( 3 : , , ? , 5 + 0 u / ( : ; (   
7 6 \* 6 : 4 , :: ; + , : 7 < p + , Ÿ 5 ( 3 A + ( 3 . < , 9 9 \* < 4 7 3 u \* 6 5 3 : 6 ) 1 ; 0 - 6 :  
( : 0 5 ( + 6 : 7 6 9 : < . 6 ) 0 9 5 6 , 5 4 ( ; , 9 0 + , \* 6 3 ) 6 9 \* 0 5 ) 0 8 ; , 9 3 + < 9 5 ; , 3  
\* 6 5 0 ; 6 9 7 9 m ; 0 ( 4 , 5 ; , 5 = 0 ( ) 3 8 < , 3 , 4 ) ( 1 + 6 9 : , \* 6 5 = 0 0 9 , 5 , 3

) 35\*6+, 3: \*9;0(: +, 3 76) 3\*05 4 , ?0(5( 7693: -<, 9, : 796) 34 (: 8<, , :( \*63) 69 \*05 3 796=6\*u :6) 9 ;6+6 +,) 0+6 ( 3 , :\*(:, A+, 3: ) 05, : 8<, :, , ?769() (5 +, -694 ( 4 (:0( ( :;

\* (4) 06 (3, 9 65, : (Y94 ( 8<, 3 .<, 99 ; 9 6 3 7(A ( p?06 (<58<, / (@8<, 79\*0(9 8<, 3  
7(\*0\*( \*05 \*64 73; (;(9+(9( ;6+(=( (3 <56: (t6: #p(5:, ‹Š" ‡ .897.& =63IP @•" ‹™ -\*" &7

J

IM !,3.94(+, ,::,940/(3:,\*9;(96+, :;(+6 IL+, +004)9 +, IQJ CE TMIQJ

IN ,379:0+,5:, 66:,=3(3:, \*9;(96+,35:, 969D\*2:EK+, ()93+, IQL ,5 CE TM IQL @5 >“ “ < X556=(;65Y

IO 897 789

IP 5;9 4 <\*/(: 6;9: (\*\*65:, ,::,940/ /06 -9\* <,5;:, @( =\*,: (473: \*9:0(: 7x)3(: (3 5(\*65(346 ,5 4 p0( (;5( 8<, \*(3)\*())( +, ,?\*,:06 #p(:, 769,14736 :< +0\* <96 ,5 ,3 5;:,95(;65(3\$ 64 ,5W 3-) ,53 0-(++ , p?06 ,5 136+, IQJ X 0\* <96+,3 ?\*,35;r.046 ,69, ,::,940/Y 0&Y@)\*&-.-: &: & IQ+, 136+, IQJ

IQ 5n30 4 <@+;:(3+6: +, 3 \*(47(t( ,5 p?06] ;(5;63 ,;:(+<50+,5:, \*64 63 4 ,?0(5[] +, 3: =5\* <3: ,5;9 (4)(: +, 3: \*(4)6 ,5w@5-68<, @53: 7969(+, : +<95;, ,37,96+6)p376 @+,: < #09769)IQ ,5\* <,5;95,5 2,9,4,65=(4 &589.& 7š 7 † † † =(4 ~š• † † † &,: \*7&

JH †" ' • † † † =(4 & 89.& 7 Q

JL ~š• † † † &,: \*7&

JJ 33,305-0(6906(9( 7(907(9,5 (8<, 3: 8<, \*65:0+,9)( +, 7964 6\*05 \* <3<93 ~š• † † † & ,: \*7& 77 LMIHM@HN

JK †" ' • † † † =(4 & 89.& 77 IJI IMD@HPJHQ

JL 5 ,4)(96 3: ,5\* <,;:( @6;96 :65+,6: 3=(+6: ( \*( )6 769=96: \*65: <3+6: ,;:(+<50+,5:, ,5 ,3 7(r. \*65:;:(965 8<, 3: 4 ,?0(56: ,;5+r(5 ( 9\*/(A93 5-694 (\*05 8<, \*65:0+,9)(5 X,4 (:0+6 7967(.5+r;0(Y †" ' • † † † =(4 & 89.& 77 IQ

JM 5) \*36975



MI, FI JH +

\$ !  
&(43; .((.b3 .397; \*3(.43.88&



:<7,9965 @ \*667,9\*

76:03 66)::(5;, ;6+6:<.09 8<, ,5 3: :,4(5(: (5;, 969: ( 3 \*(r+( +,  
\_9,5A @5 3: 4 ,:,: 76:;, 969: ,3,4)(1+695;, 9-56,5 3 763;0( ,?;, 969  
4 ,?0(569@35695: 6(1+u6)1u6u ,5,9,3005 \*65 ,3+5;56 +,3.6)0956  
.<(;,4(3,\*6 66)::(5;, ,3p?06+, :<67,9\*05,5 ,:;, 9:7,\*;656 3 7<+6  
:,99\*656\*0+6 @3 93\*05 8<, /()r( ,:;())3\*0+6\*65,379:0+,5;, 4 ,?0(5656  
,9 ;(5 \*,9(5( \*64 6 p33 7,5:())( ;(4 76\*6 :, 7,9\*(;u +, 8<, ,379:0+,5;,  
4 ,?0(56 34 (5;,5r( \*,9( 796)()34 ,5;, 7(9 ;64 (93 ,37<36(3.6)0956+,  
\$(:/ 5.;65(;9=p: <@,5 93\*05 \*65:<. 5;,5\*65,:/(\*0 p?06

3.63, 4 00(98<, 796-6\*u 3 \*(r+( +,379:0+,5;, \_9,5A-<, +,;, 94 5(5;, ,  
5 3 /0;690 +, 3 <,99 9( ,5 p?06 7698<, 79\*070u<5( ,:\*005,5;9 3  
763;0( 5;,95( @3 763;0( ,?;, 969 ,:;( x304 ( 3=)() ( p?06 ( (76@9  
\*(<(: 796.9:0;(: ,5 3: ,:\* ,5(96: 5;, 95(\*65(3: (<58<, :<763;0( 5;, 95(  
,9 \*9\*05;,4,5;, \*65:,9(+69 5 3: (t 6: \*5\* <,5;( ,:;( 9<7;<9 56 ,9  
:<Y\*05;,4,5;, \*39 50;(15;, @769,:( 9Au5 :<. ,-,\*6: +,;,:;())00A+69:  
)96;(965(3<56:(t 6: 4 m;(9+, ,5,3\*65;,?;6+, 3 ,=63\*05 <)(5( @+,3  
.6)0956+, <:;(=6 r(A 9+(A

( 794,9 7(9, +, ,:;, (9r<3)X+,\*99,\*9:;\*69\*,9:;0(: +,3\*65;,?;6  
53,10(05)3,5 869(1+,?;(963u 3 ,:;,05 +,3,4)(1+69\$ /0, ( :.,<5+(  
7(9, ,:;,m+,+0(+ ( 3: \*(4) 6: 8<, 3 <,99 9@ 0A4~ +



4 , +0+ (: 8<, 9 \*64 , 5+() ( , 3+, 7(9(4 , 5;6 +, ::(+6 7(9 3=(9( \*() 6 +0/ 6  
\*64 ) (;, b:;, 9 \*656\*r( 8<, 3 5 <, 5\*0 :6=0;0( , 5 p?06, 9 76\*( @, 5<, @  
, ?73() ( , 3 \*34 ( +, ;6395\*0 8<, :, , ?;, 5+r( ( X: 67, 9 \*65, : +, 3  
\*64 <504 6 5;, 95(\*65(3/ , 5 ;p94 56: +, 3 X4 , A\*3 +, 3), 9 34 6  
+, 4 6\*9m06 @6\*0 34 64 (9?0;( / , 9 +( +6+, 3 9 =63

, 95 6) 1; 06: \*, 5; 93: +, 3 4 005 +, 95\*0 \$ / 0, , 5 p?06 . <(34, 5;, 04 769(5;, 6 4 m , 9 (39(9(379:0+, 5;, 4 , ?0(56 +, 3 = <3, 9) 00+( + ( 3 8<, , ;)( , ?7<, ;; 6 7693 \*(95\*0 +, <5( 3. 03\*05 (5; 064 <50;( @+, <5 796. 94( +, X04 70A(Y+, \*64 <50; (: +, 3 (+4 50; 9\*05 7x) 30( <sup>H</sup> 6 6):: (5;, : < \*64 7, ;, 5\*0 796, : 065(3 95\*0 \$ / 0, -9\*( : u , 5 , : 6: +6: , 4 7, t 6: 7, 96 +, ;; (\*u , 5 3: 5, . 6\*0\*065, : 93; 0( : (3(\* <, 9+6 (p96 ( 36: ; 9)( 1+69: 4 , ?0(56: @3; 9;(4 05; 6+, 3 \*900 . <( ; , 4 (3, \*( +0, 95\*0 +, : <: (5;, \*, : 69: 8<05, : / 00965 ) <, 5(: 4 0(: \*65 , 3 79: 0+, 5;, 4 , ?0(56 , 5 ; <956 , 3, 4)( 1+69 \$ / 0, 56 , ;; ) 3\*0u <5( 93\*05 7, 965(3\*65 , 379: 0+, 5;, <0A 6905, : 5\*3: 6 7(: (965 = 90: : , 4 (5(: , 5; 9 : < (99) 6( p?06 @ < 7904 , 9 \*65 = 9 (\*05 \*65 p3 5 36: 7904 , 96: 4 , ; , : +, : < . 6) 0956 , 379: 0+, 5;, 4 , ?0(56 -<, 9(\*06 ( <5 ; 9; 6 \* , 9(56 \*65 , 3 , 4)( 1+69, ;; (+ <50+, 5:, (38<, 79m; 0(4 , 5;, 56 9\*0 r( @ (4 76\*6 9: 765+r( 3: \*(9(: 8<, 3 , 5=0)( , 379: 0+, 5;, 0, 5/ 6>, 9



763;0( .00 ;

( 763;0( ,?;, 96956 ,q <5( 79699(+ 7(q ,379:0+,5;, <0A 695,: 3  
5006 +, :<.6) 0956 67;u 7694 (5;, 5, 9Xq 5;96:7, \*\*05Y \*64 6 34 u 69,  
(:;(t,+ ( @\_ 3(9A+, 3 6:( (3(7(9(4 05;6 +, 36: (:<5;6: 5;, 95(\*65(3:  
8<, /() r( \*(q\*;, 90A+6 , 3:, ?, 506 (5;, 969 7, 96 769 <5( 7(9, , 379:0+, 5;,  
0, 5/6>, 9) <:\*u <5 (\*, 9\*(4 05;6 8<, 56:, 76+r( 9\*/ (A9 @7696;96 3+6 36:  
:<\*, :6: , 5 <( ;, 4 (3 ;<=0965 <5 04 7(\*;6 +0-0-6 , 5, 305;, 969+, 3 :6\*Q+(+  
4 , ?0(5( 8<, 6) 30 u(3.6) 0956( 7(9007(9, 5 3 9:7<, :;( (305;, 9=, 5\*6504 6  
+, 0, 5/6>, 9 +, 4 m /() r( 8<, , =0(9 8<, , 3 4 6=0 05;6 +, (76@ (3  
79:0+, 5;, \_9), 5A+,: 7, 9(q 58<0;<+,: , 5 \$ (:/ 5.;65 @8<, , 33+, 9A 6+,  
<5( \*((<:( \*65 ;q:\* , 5+, 5\*Q 5;, 95(\*65(37(: (q ( 4 (56: +, 3, ?79:0+, 5;, ,  
n9+, 5(: , 5;9 6;q:P,0°

' T<sup>o</sup>o<š• Š( →' •%ž•" <' ‡

( \*65:7

3 7904 (=, 9 +, 100 3 , \*6564 r( 4 , ?0(5( , 5-9 5;() ( : , 90: +0Y\* <3(+, : 8<, \*65+<1,965 ( 3 +, =3( \*05 +, 37, :6, 5 () 93 :;6:050Y\* ( 8<, \* <(5+6 :;(+6: " 50+6: ) <: \*() ( 3 <5(504 0+(+ \*65;9 <( ; , 4 (3 , 3 .6) 0956 4 , ?0(56 5, \*, :0() ( : < (76@ 7(9 :63\*065(9 :<: 796) 34 (: Y5(5\*096: 394 , +0 9,8<, 9( +, 3 (796) (\*05 +, 3 65+6 65, ; (906 5; , 95(\*065(3 , 3\* <(3 ( : < =, A 5, \*, :0() ( 3 (8<0: \* , 5\*0 , ; ; (+<50% " QcWB



56: , 9 (3Au7698<, X3;9) (16Y: , ;, 94 5u(5;,: +, 379=0;6

‡ • OE' TM ‡

310+, 156 +, 101 <5( - (\*\*05 +pe

6: ( : 0 + 6 : . < ( ; , 4 ( 3 , \* 6 : 7 9 6 = 6 \* ( 9 6 5 ( . < + ( : ; , 5 : 6 5 , : , 5 , 3 5 ; , 9 6 9 + , 3  
( + 4 5 0 ; 9 \* 0 5 7 x ) 3 , 9 ( 3 < a 7 ) € € 3 b 3 • ... 5



\$ / 0, @, 3( \* <, 9+6(38<, / () r( 3). (+6, 5 1<56(5;, 969\*65, 379:0+, 5;, <0A  
695,: ,:., ( 3 :., = 99(+ +, 3 5:;9<\*\*0u5 , 34 (@9 6:, 5), 9 7<+6  
(47(99, \*65, 3(76@+, 3, ?79:0+, 5;, n9+, 5(: ,:;<=6 79:6 <56: 4 ,:,: @  
\*(5+6-<, 3), 9+6 =0 1u( <967(

~ ‡" %™\$ Žš< ™~ ‹š• ‡

95\*0 \$ / 0, ;, 94 5u:< 4 005, 5 1<56 +, 100 , -<, +, p?06:6 / (), 9  
9:<, 36 3: (4) 0y, +(+: +, 379:0, 5;, <0A 696, :

• " %'0, TM " < TM

3,706+06+, 3 .,.;0u5 +, 95\*0 \$ / 0, \*64 6, 4)(1+69,5 p?060<;9 36:  
\*6:;6: 8<, ;<=6 7(9 p?06 3 ;95:-694 (\*0u5 +, ;(+6: " 50+6: ,5 <5(  
:<7,976,,5\*0 (:r\*64 6 3 763;0( +, \*667,9\*0u5 8<, :, ,;()) 3\*0u, 5;9 (4) 6:  
7(r.,: +, :+, 3 ,.<5+( <, 99 <5+03 ,:., ( 8<, p?06-694 ())( 7(9, P€

M# ,m, • † † X :;( +6 : " 50+6:Y77 JPMN

N" • \$ (: / 5 ;65 IK+, (. 6 ;6+, IQOCE)™ IQMIQO=63 #

O" • \$ (: / 5 ;65 IK+, (. 6 ;6+, IQOCE)™ IQMIQO=63 #

P (q <5( +, : \*97\*05 +, , : (: 5, .6\*Q\*65, : =m, X , 4 695+<4 -964 ;/, : :0;(5 ; , \*9;(9@6- ;(, ;, -69 5; , 9 4, 97(5 ž( 0 D 635+E;6 ;/, , : , \*9;(9@6- ;(, ;, Y \$ (: / 5 ;65 JQ+, -, ) 996 +, IQN CE)™ IQMIQO=63 #

Q (• † † X 7,9, \*;Y77 PJ FNP

IH" • \$ (: / 5 ;65 IK+, (. 6 ;6+, IQOCE)™ IQMIQO=63 #

II ::( +, : \*97\*05 :, ) (: ( 5 3 \*(9( 8<, \$ / 0, , 5=0( 379:0;5, ;, 0, 5/ 6>, 9, 3JQ+, (. 6 ;6+, IQM, 5 3 8<, 9 \*65; ;9@ \*65 +, ;( 3 3 , =63\*05 +, : < 9 3 \*05 \*65 , 3, 1\* < ;06 4, ?0(56 X, 3, 9 -964 ;/, 4) (: (+695 , ?06 5 / 0, E;6 ;/, 9 :0; 5; Y CE)™ IQMIQO=63 #

IJ ! (4) 05 796765r(5 \*64 6 , 773(\*05 (3, 95( ;0( 8<, , 379:0;5, ;, 9/ <r( , 3\*65; (\*; 6 \*65 3 , 4) (1+( 7698<, +<95; , 3 \*(4 7(t( , 3\*69 3;6+ , 6(98 95\*0\*6 x 0( 3 / () r( (\* < (+6 +, \*63) 699 \*65 3 : ;967( : (4, 97(5( : 8<, 6\* < 7(965 , 37<, 96 +, #, 9 \*9<A, 5 IQL 5 \*65; , \* < 5\*Q < 0A 695, : / () 9( ) < \* (+6795) (98<, 56; , 5r( 5; , 9: 7(90 < 39, 5 < 5( 9 3 \*05 \*65 :: (+6 : " 50+6:

IK 5;9 3: 5-694 : 8<, 5=0( : < : < 7, 969 : : , 5\* < 5; 95+6: 8<, 79<,) (5 : < 5 < , 5\*Q 3794 , 96, : : < (6 9@ 5 9@ 0 0 5 ( 3 7 9 7 < 5 ; ( +, 3796 \* < 9 +69 . , 5, 9 3 96 > 5, 37(9 8<, 3 < (9+Q (\*65(3 799) (0 9 4 ; 5 6 5 9 9 2 4 \* 0 2 0 0 2 3 5 4 6 3 . (3+ ; 9) (1+69 : 4 ; ?0(56: X / , 4) (: (+695 , ?06 5 / 0, E;6 ;/, , \*9;(9@6- ;(, ;, Y IL+, (. 6 ;6+, IQK CE)™ IQMIQO=63 # " 5 : . < 5+6, 14 73, : : < 9\*/ (A6 (3735 +, 3\*65; , 196, : 7, \*Q3, 5 ;, 4 ( : +, (=Q\*05 +, 3+, 7(9(4, 5;6 +, : ;(+6 9:7, \*; 6( 8<, , 3 , 4) (1+69 79; , 5; (q <5 < 304 m<4 (3.6) 0956 4, ?0(56 7(9 6) 3(96 ( \*65\*3<0 , 3 \*65= 506 +, (=Q\*05 , . x5 , 59@ 635+ : <): , \*9;(96 7(9 ( : < 5; 6: 5; , 9 4, 97(56: X 3, 4) (1+69 56: : (3+u +, \*64 ;, ; 9 < 5 . 9 = , 9969 X , 4 695+<4 -964 ;/, : :0;(5 ; , \*9;(9@6- ;(, ;, -69 5; , 9 4, 97(5 ž( 0 D 635+E;6 ;/, , \*9;(9@6- ;(, ;, Y \$ (: / 5 ;65 JQ+, -, ) 996 +, IQN CE)™ IQMIQO=63 #

IL 6: , r( <5 5; (/ () 3 7, +0 9( (\*+p4 06 () r( , ; ; < +0+6, 5 3 " 50; 90(+ +, & (3 , 5 3 : \* < , 3 .

IP X ,4 69(5+<4 -69;/, Y3: )@/, 4)(:(+695 ,?06 \$ / 0, EY Q+(++, p?06 IH+, 1<50+,  
IQMCE>™IQMIQO

IQ #p(:, X ,<sup>3</sup>,9-96

⌘ ~%~ ‹ ~ ‹ • † X (%~†Ⓕ7 ∅

⌘ X, 3, 9-964 ;/, 4)(:

!

& d b%  
1)."(.1(82 .34- &(&\*1&: \*7) 45&7&).8\*397

"

" ‡ • o ‡ ~ ~ > ^ • ‡ T M # ‹ ' ‡ T % o

" š ~ • Š › % % ©

! / 64 ( : ( 55 9 ( ; 5 4 , 9 † ( \* 6 4 6 : , 3 3 . u ( \* 6 5 6 \* , 9 | - < , , 4 ) ( 1 + 6 9  
, 5 p



! Ž•“ ‡™ ‡”” ‹’ š<ž‡”•U

! / 64 (: (55 5(\*0

+6: ,14 73: +( +6 8

, :: (+<50, 5:, IK

3 7904, 9 :<\*, :6 8<, , 5-95;u (55 \*64 6 , 4)(1+69 -<, 3 9:7<, ::(  
4 , ?0(5( ( 3 5=( :05 +, (/r( +, 6\*/ 56: 7<, : /<) 6 +, 4 6:;9 \*65, : , 5  
-(=69 +, <)( , ;9;u +, <5( 9:7<, ::( 7(90<394, 5,, 000(5:, 7(9  
, 55, +@8<05 ;<=6 8<, , 5=09(3=0, 79:0+, 5,, 6/5:65( p?0\*67(9 ;9;(9  
+, 6);, 5, 9, 3(76@4 , ?0(56, 5, 3;, 4( +, <)( X, /, +0/6 8<, 3: +0( ( 3:  
4 , ?0(56: 8<, 56: +, ), 5 <5 =6;6 B 00 05+6:, ( 065C 6 \*9, : 8<,  
+, ), 9(4 6: :, 9 +<96: \*65 , 36: Y<sup>L</sup> , :7<p: +, 3 5=( :05 (55 :630u <5  
, 5\*<, 5;96 \*65, 3

, \*64 ,5+u ( \$ (:/ 5 .;65 <:(9;6+( 79:05 763;0( @,\*65u4 0( 7(9 5 <0  
, 5 3 76:005 +, p?06 @+,:+, 3,. 6 76:765,93 =00( +, ,55,+@37(r:  
8<, ,:;)( @:6) 9 ,3;() 396 @, /() r( 735,(+6 7(9 795\*076: +, 1QW :;6  
x304 6 ,5=09( <5 4 ,5:(1 \*396 +, 8<, :;(+6: " 50+6: 56(796)() ( 3 763;0(   
,?;,969 5+,7,5+05;,, +, p?06 967<:6 Y5(34 ,5;, 9;9:(9 79p;(4 6:  
, 5;:(9 ( 5:;0<\*65,: Y5(5\*09: 5;,,95(\*65(3: ( /(\*,9 3 4 0 4 6 (55  
,5;,,5+r( 3 76:005 +, p?06 (5;,, 3\*64 <50 4 6 \*64 6 X8<r=6\*(Y @,:;6 ,9  
5(+4 0 0 3 <sup>10</sup> 5;,, u7,A (;,6: (55 +06 8<, 3 =00( +, ,55,+@  
54 ,+Q;(4 ,5;,, +,:7<p: +, <5( ,<505 +, 65:<3( ,5 +65+, p?06  
+,-,5+09( ( <)( : ,9( 4 <@796) 3 4 m0( @3 79. <5;u:0/() r( \*65:0+,9+6  
8<, ,3(76@9(3.6) 0956 +, 3 03 76+9( +,) 00(9 4 m 3 \*65Y(5A ,: ,5\*Q 3  
7(9 ,3\*9 \*04 05;6 ,\*65u4 06+, p?06 ( 9:7<,:;(+, u7,A (;,6: -<, 8<,  
p?06 56 76+r( ) (5+65(9 :< 76:;<9 ;9+065(3 +, +,-,5:( +, 3 56  
5;,,9=,5\*05 @<. 00 8<, : , 9 <509 \*65 ,3;,\*9;(96!, 36 (5;,, : +, 3 9 <505  
7(9 9 \*65\*00) 93: 76:065,: +, p?06 @ :;(+6: " 50+6: <sup>1P</sup>

5 :< +0\* <96 ,5 <5;( +,3 :; , !, 36 +, \*39 8<, p?06 56 ,9 5 ,< ;9 3  
\*64 6 7(9 , +,3:0; ,4 ( 5; ,9 4 ,9(56 @8<, X?0; , <5( 5\*64 7(;0 00(+  
9+0(3,5;9 3 7,9,5,5\*Q ( 3 9 (50A \*05 +, :;(+6: 4 ,9(56: @<5(  
796-,:05 763;0( 4(9?0;( 3500;( B C:6; ,5,4 6: 8<, : 5\*65\*00) 3 3  
\*(3(+ +, 4 0 4 ) 96 +, 5<,:;9 69 (50A \*05 \*65 3 (+67\*05 +, <5 9p. 04 ,5 +,  
. 6) 0956 \*<@: \*(9\* ,9:;0(: 56:65 3: +, 3: +, 4 6\*9\*Q: 9 79: ,5;(0:(Y<sup>1Q</sup>  
p?06 : , () :;<=6 ,5 3 =6>(\*05 9-,95; , ( 3 04 76:005 +, :(5\*65,:  
, \*65u4 0(: @+ , <5 ,4 ) (9 6 +, (9 4 (: ( <)( (:r \*64 6 ( :< ,?\*3:05 +,3  
:0; ,4 ( 5; ,9 4 ,9(56 @: , 7965<5\*05 ,5 -(=69 +, 3: 9:63\*65,: :6) 9 3  
,?\*3:05 +, <)( +, 3 <5:( 5; ,9 4 ,9(5( +, ,-,5:( 3 \*9(\*05 +, <5(  
\*64 005 +, : , . <90(+ 7(9 5=; :;0(9 3 :<) =, 905 \*64 <50;( 3 396 3  
6-,5:0(+ ,3\*64 <50 4 6 ,5 4 p90( (;5( 3 \*,3) 9\*05 +, ,3\*\*65,: 3) 9: @  
3 9-694 (+,3,:;(<6+, 3 64 005 5; ,9 4 ,9(5( +, ,9\*/6: <4 (56: <sup>JH</sup>

<58<, 3 76:005 +, p?06 7<,+ , 5; ,979;(9 , \*64 6 <5 4 6 4 ,5;6 +,  
\*(4) 05 ,5;(5;6/ 0A6 ,?73\*Q( (:< 76:005 0+,63. 0( 56) (:;u 7(9 (:;0-( \* ,9(  
(55 8<05 ,34 0 4 6 +r( +,3+0\* <96 +, !, 36 ,5=05 <5\*() 3 (3+,7(9(4 ,5;6  
+ , :;(+6 <:(5+6 3 9 <505 ,5 <5;( +,3 :; , \*64 6 ,=0+,5\*Q +, 8<, u7,A  
(; ,6: 0( 4 m (3m 7(9 : ,9(4 0()) 3 \*65 3: \*64 <50;(: D b5\*? 8948 <88  
,4,3, 4: 94+- .8 <8> 94' \* 7.\*3) 1 <.9 422:3.88E 3,4) (1+69 9 \*64 ,5+u  
9;9:(9 <5 79p;(4 6 +,3^ S 7(9 +,19 \*396 ( p?06 8<, 3 \*667,9\*05  
; ,5+9( 8<, +(9 , ,5+6: : ,5;0+6: <sup>J</sup> 5 7(3) 9: +, ,39 (55 : , : ,5;r( \*(+  
=,A 4 m -9<:;9+6 \*65 3 763;0( ,?;,969 4 ,?0(5( 8<, \*(3)\*() ( \*64 6

5(\*65(

7(



" 506: 6 =,r( 6\*( :65(34 ,5;, @X6 9:7,;() ( 6 :0479 ,;;m)(46: +,



+, 3 900 +, 3: 00: (55 :, +,+0u ( +6: (:<5;6: ,::90;(4,5,,  
)0;,93: 3:(350(+++,396 659+6 @ 5,.6\*0\*05+,3/(40\3 ,:7,\*;6,

• " %'00> TM " < TM

,.x5 90 ' 63= 3 +, :05(\*05 +, (55 \*64 6 ,4)(1+69,5 p?06 -<, ,3  
000 +, 3\*(4) 0 +, 3 763;0( ,;(+;

+, p?06( 3: 6) 1;0-6. ,:;( +<50, 5:, : ,.x5 (3 p?06;, 5r( 3 =005 X

INWPL F IHJLFIQ+, +004)9 +, IQN X 964 0 ,;,9 (995 ,?06 0@;6 9 (52,@0E  
65) UrPÓ°

9:765+0 (55 ! <' •



#  
(947>).5142]9(4

••

' ~ T W " ‡ • <

6/5 (= 5 (\* 0 u , 3 P +, () 9



6\*(65, : 100 @ 100 <, , 5, , :; ( p76\*( \* < (5+6 6/5 (=5 :, =5\* < 3i \*65 6; 96  
(\*; 698<, ; (4) 05 / () r( 6\* < 7(+6 (t 6: (5; , : 3 79 : 0, 5\* 0 +, 3

5 56=04



796; (.6504 6 -<, ;639+6 , 5 3 (:(

9 , 16 +, :< (-n5 +, )<:(9 36: 9 , \*;69: 5 1k36 +, IQPJ 3 \*(+,5( +,  
;, 3=00u5 ‡^%o796+<16 <5 +6\*<4 ,5;(3;0<3+6 \_=(4 9\*2548)\* (7.88 \*<@  
4 ,5:(1 795\*0(3, q 8<, p?06 :, ,5\*(4 5())( /(\*0 .95+, : \*65 0\*;6: 8<,  
76+r(5 +, :(;93 =635\*0 , 5\*3:6 <5( .<, 99 \*0=3 3+6\*<4 ,5;(3 8<, -<,  
796@\*:(+6 ,5 ;6+6 ::(+6: " 50+6: 7,96 56 ,5 ;, 3=00u5 () 09( ,5 p?06  
\*(<:u <5 9 p0À

, -, \*;6 5, .(:0+6 +, :<: +, \*39\*05, : , 5 6: 4 , +0: <56: +r(: +, :7<p: , 3lL +,  
:, 7;04)9 ;q;u +, \*699.0:< , 9969 (3+, \*399 8<, ::(+6: " 50+6: +,) r(  
X(\*, 9 \*(<5;6 , ::p ( :< (3(5\*, 7(q (@+(9 ( p?06 ( 9:63, 9 :< \*900  
, \*65u4 0\*(Y<sup>JH</sup>  
, (. (5 -<, , 37904 , 9 79:0+, 5;, +, ::(+6: " 50+6: 8<, \*64 6 \*(5+0+(:6  
7967<:6 <5 \*<, 9+6 7(q 4 p90( +, 3 69, D 479 2\*7.(83 ((47)E 6

∴ \*64 734 ,5;u \*65 3





\*(5\*039( !(4)05 +,:7,9() (+<+(: @,4 69: :6)9 3 :630,A+, 3 76:005  
4 ,?0(5( ,5;9 3+,9: ,4 79:(903: +,37(r 5 3<.(9+, 796765,9, 9+<\*03:  
;:5:065,: ,5;9 36: .6)0956: 8<, :r.,5,9)(5 +0,95\*0: 7(9\*r( 8<, (=5  
(\*;<() (7(9 4 (.50Y\*(93: \*65=0,05+64 <\*/ (: =,\*, : :<: 79670: +, \*39\*065, :  
,5,34 ,636+,3796)34 (  
3Y5 +, 3 <,99 9( @,3(.6;(4 05;6 ,5;9 36: \*65;,5+05;,: ;,94 5(9(5  
769 +(93 <5( : (3+( ( 36: \*65 0;6: +, ,:( p76\*( ,5 ,5;96(4 p90( (9  
,5;65\*,: (=5 ;,5r( 4 <\*/6: (t6: +, /(),9+,1+6 3 ,4)(1+( 5 ,4)(9 6  
3: ,\*065,: +, ,.<99+(+ (\*65(3JFM@JQ Y94 (+(: 769 ,(.5 ,3IM+,  
6\*;<)9 @,3IN+, +004)9 +, IQP04 <,,:9 5 8<, /(:;( IQP ,3x304 6 (t6 +,  
,(.5 ,5 3 79:0,5\*0 :<.6)0956 7,90;r( ,5 :<: ,:-<,946: 7(9 6);,5,9,3  
(76@ +,3 .6)0956 4 ,?0(56 ( :< 76:005 :6)9 36: \*65 0;6: ,5  
,5;96(4 p90( <sup>K</sup>

toe" <" š<~<" • -‡" š‡" • TM ' ‡ -' !+!06: 9,"(a 6

+, 4, +0+69, 5;9 3: -<, 9A: 763;0(: " 5( (\*;0<+ +, 796\*u5:<3 ( 9(\*\*05  
+, 3, 5;65\*, : +00, 5,, +, 3

\* < \$470 .2 \*8 5-694 u (4 73) 4,5;, +, :,6: 5;,5;6: 8<, \*( <:(965 ,5694 ,  
79,6\* <7(\*05 , 5+05(\*05 (379:0+,5;, , 3 ( +90 @4 04)96: +, : <  
.6) 0956<sup>10</sup>

(9 \*64 73;(9 <5 (4) 05;, +, \*900 ,5 3 9 3\*05) 0;, 9 3,5 ,:6: 4 04 6:  
+r(: (=5 5-694 u (3\*(5\*039 ,7x3,+( 8<, ,3.6) 0956 ,:;( +<50+,5:, /() r(  
+, \*0+06,?? <3(9(39 79:,5;(5;, +, p?06(5;, 3: (\*065,: " 50+(: 769 <5  
5\*6:,5, 00<9976(-<,9 +, : < +64 0006,5 <,( 8692 ,7x3,+( (:,t(3 8<,  
: < 9:7<, :;( 54, +0;( -<, (+, 909( (=5 8<, ,5 \*(:6 +, 8<, : < .6) 0956  
+, \*0+09 796\*, +, 9+, ,:( 4 (5,9 ,3.6) 0956 4 ,?0(56:, =, 9( 6) 3(+6( /(\*, 9  
, ?(\*;(4,5;, 3 4 04 6 @3 +, \*3 9 9( ( p35\*743& 343 ,788<sup>kp</sup> , 3 ( +90+  
: <) 9 @ 8<, 3 (4,5(A +,3.6) 0956 +, ,(. (5 +, ,?? <3(9(39 79:,5;(5;, ,  
4 ,?0(56 3 7(9\*0u 5(\*,7;()) 3 5:;9<@ (3 ,4)(1+69 +, p?06 ,5  
\$( / 5.;65 69, :756:( +, 36: ,@: ( 8<, :, ,5;9=0;(9 \*65 ,3  
: <):, \*9;(96 +, ,:;( +6 ,55,;/ (44 7(9 ;95:4 009 <5 4,5:(1  
5,8<r=6\*6 :0,3.6) 0956 +, ,:;( +6: " 50+6: 796\*,+r( +, ,:( 4 (5,9 p?06  
;64 (9( X<5( 4 ,+0( 9\*r796\*(Y 3 8<, :050)\*()) ( 3 ,?? <305 +, p?06 +,3  
,4)(1+69 (=5<sup>10</sup> 5;, 3 Y94 ,76:005 (+67;(+ (769,3.6) 0956 4 ,?0(56  
,3.6) 0956 +, ,(. (5 +, :0;0u +, (4,5(A 9\*65 3 ,?? <305 +, 39 79:,5;(5;, ,  
4 ,?0(56,5 3 9(50A\*05 +, 3: (\*065,: " 50+(: 0" > Ê (<58<, 56+, 1u+,  
79:065(9 +, /, \*/6 (\*,7;u 8<, ,3.6) 0956 +, p?06 9 4 73 A 9 (3,4)(1+69  
4 ,:,: 4 m;(9+, (3\* <4 739 , ,3;04 76 5694 (3+, : <; 9:3 Óv#39,4%70105+

" " •" %Š" š< " > Ÿ•~ †œ

30 <(38<, :< 79+, \*, :69 0/(9+ 065 , (. (5 +, \*0+0u +(9790690+(+, 5 :<  
(., 5+( +64 p;0( , 05;, 95(\*065(3( 38<, 767<394 , 5;, @:, \*656\*r( \*64 6 X3  
. <, 99 \*65;9 3: +96. (: Y 76938<, :<. 6) 0956 0\*94 , 5;u 3 79:0u5:6) 9 36:  
7(r., : 796+<\*;69: +, \*(55() 0 (4 (763 @ 61: +, \*6\*( , 96;(4) 05 +, \*0+0u  
796;., ., 9 :< ;, 9906906 X, 335+6Y 3 7, 5r5:<3 +, 3 3690+( 7(9 04 7, +0 3  
33.(+ ( +, \*6\*(r5( , 5, 4) (9\*(065, : 7, 8<, t (: ;9=p: +, 34 (9 (90, 65, : (4,  
+0( 796=6\*u <5 +, :=6 +, 36: <6: +, \*6\*(r5( /(\*0 , 5;96(4 p90( @  
p?06 8<, 6\*(065(9( 3 05\*69769\*0u5 +, 3: 69 (50A\*065, : \*904 0(3:  
4, ?0(5( : , 5, 3;9:0.6+, , : ( +96. ( 4 <\*/ 64 m9 +0<() 3 8<, , 3\*(55() 0 @3  
/ , 96r5(

64 6 7(9, +, :<: (\*\*065, : \*65;9 3: +96. (: , 3. 6) 0956 +, , (. (5  
0\*94 , 5;u 3 79:, 5\*0 +, (. , 5;, : +, 3 Š † , 5 ;, 9906906 4 , ?0(56 ( \*900  
, :; (3u , 5 56=04) 9 +, IQFL \*(<(5+6 36: 4, +06: +0965 ( \*656\*, 9 8<, , 5  
/ 0 <(/ <( : , /()) r( +, : \*(<) 096 <5( 735;(\*0u5 +, 4 03: +, / , \*;m9 (: +,  
\*(55() 0 8<, 769:<: +04 , 5: 065, : , 9 (5: u3) 6 8<, 56 / <) 0: , : 0+6 +, ;, \*; (+  
(5; , : 7693: (< ;690+(+, : 4 , ?0(5( : " 5( =, A8<, : , / 06 7x) 30( 3 , ?0; , 5\*0  
+ , +0/( 79670+(+ 3: (< ;690+(+, : 4 , ?0(5( : 05; , 9=050965 +, : ; 9<@965 36:  
\* <306: , ?0; , 5; , : , 5 3 4 04( +, \*64 0(965 4 03: +, ; 65, 3+( : +, 4 (90 <(5( @  
\* , 99 965 3 735;(\*0u5 ! 9: 4 , : , : +, : 7<p: , 30+, - , ) 9 96+, IQFM: , 796+<1, 965  
, 3: , \* , : ; 96 @ , 3 (: , : 05(; 6 +, 3 (., 5; , +, 3 Š † 59906504500 5(, 55,  
<(+ (3 19 03 05 = ?; 0 (\*065, : 9 (3A+( : 9(7693\*, 3; . 6) 0956 4 , ?0(56  
+ , ; , 94 0(965 8<, (4 (95( -<, =0; 04 (+6 76936: 5(96; 9 Ÿ\*(5; , : 4 , ?0(56:  
8<, , 95 +<, t 6: +, , : ( 79670+(+ u

6(01014) x5091 <+( +, 8<, , 3: , \* , : ; 96 @ 3( : , : 05(; 6 +, 598<, (4 (95(  
\*( <:( 965 \*654 6\*0u5 , 5 3 (+4 050; 9\*0u5 +, , (. (5 , 5 , 3\*65. 9: 6 @, 5 36:  
4 , +06: , : ; (+<50+, 5: , : 06 690, 5 ( <5( : , . <5+( 7, 9\*0u5 5; , 9, 7\*0u5 , 5 3  
-965; , 9 \*64 x5 : <7<, : ; (4 , 5; , 7(9 , =0(9, 37(: 6 +, +96. (: 7, 96 , 5 9(30+(+  
7(9579 03( 90(3: 6) 0568 4 , ?0(56( , 5\*65, 9 9 @ (: ; 0(9( 36: \* <3() 3: +, 3  
( : , : 05(; 6 +, (4 (95( 5 36: 9" 15p0(€ , A

, 9 5 3: +<, t 6: @67, 9+69: +, 3 7 3 5; (\*05 +, \*(55()) 0, 5 / 0 < / < ( 5 :<:  
4, 4 690: , 3, ?79: 0, 5;, +, +0( 4 m +, +0A7m 0:( ( (5( 3A 9, 30\*0, 5;, , 5  
, 3: 9\*656\*, , 3796) 34 ( +, 3 \*699<7\*05 , 5 3: \*69769\*065,: 7630\*(  
4, ?0(5( @. 9=+(+++, 3:<\*, :67(9 3 9 3\*05 \*65 ::(+6: " 50+6: +, 4 m  
+, 3. 9 9 3 +, ;, 5\*05 +, 3: 9:765:( ) 3: +, ,: , \*904, 5 ;9;u +, \*65;, 5, 9 3:  
+(t 6: , 5=05+6 ( \$ (: / 0. ;65 ( 4 0 4 ) 96: +, :< . ( ) 0, ;, 7(9 9 <50, \*65 3:  
Y. <9: 4 m +, ;: (\* (+: +, 3. 6) 0 956 +, , ( . ( 5 34 0 4 6 ; 0 4 7 6 ( 7 6 @ 3 ; : 0  
+, 3\*(5\*039 , 7x3=+( +, 8<, <5 ;, 4 ( 7 6 3 0 \* 6 5 6 +, ) r ( , 3=(9, ( 50, 3  
7 6 3 ; 0 6 \* 6 4 6 3 , ;: ( ) ( / (\* 0 5 + 6 \* 6 5 ;: ( 5 ;, 4 , 5 ;, \* 6 5 :<: +, \* 3 9 \* 0 6 5 ;: , 3  
, 4) ( 1 + 6 9 (= 0 (< 5 8 <, , : 6 5 6 0 4 7 0 + 0 8 <, , 3, 5 ; 6 5 \* , : 7 9 : 0 , 5 ;, +, p ? 0 6  
9 \* 0 0 9 ( 3 , 4 ) ( 1 + 6 9 , 5 + 6 : 6 \* ( : 0 6 5 ;: , 5 4 , 5 6 : +, 8 < 0 \* , + r ( : 7 ( 9 ( 5 ( 3 A 9  
3 : 0 < ( \* 0 5 @ = ( 3 9 9 3 4 , 6 9 4 ( 5 , 9 +, 9 : 6 3 , 9 3 : + 0 , 9 5 \* 0 : , 5 ; 9 3 : + 6 :  
.. 6 : 5 5 6 : / < 5 \* 3 ,

, 3 (+9+ ; (4) 05 ) < \* u ( , ( . ( 5 7 ( 9 : , t ( 3 9 8 <, 3 7 , 9 \* 0 5  
5 ;, 9 \* 7 \* 0 5 5 6 9 : 6 3 r ( , 3 7 9 6 ) 3 4 ( @ r , 5 \* ( 4 ) 0 , ;: ( ) ( \* (<: ( 5 + 6 . 9 = :  
+(t 6: \* 6 5 u 4 0 6 : ( 3 : \* 6 4 < 5 0 + ( + : - 9 6 5 ;, 9 0 A : ( \* 6 5 = 9 ( \* 0 5 , 5 ; 9 3 :  
7 9 : 9 0 6 : 9 : < = 6 3 . ( 9 , 3 = 0 9 5 , : J J + , - ) 9 9 6 + , I Q P M @ 0 5 . 9 u < 5 , - , \* ; 6 7 6 : 0 0 6  
7 6 3 < , 3 7 , 9 \* 0 5 \* 6 5 \* 3 @ , 3 3 5 ; : J M 0 5 , 4 ) ( 9 6 + < 9 5 ;, 3 : 6 5 \* , + r ( :  
8 < , + < 9 u @ 5 3 : : , 4 ( 5 ( : 7 6 : ; , 9 6 9 : \* 6 5 ; 0 < ( 9 6 5 3 : \* 9 ; 0 ( : + , (= 0 3 Š †  
@ 3 Y \* 5 ( + , ( P E \* 8 % 8 0 8 8 ) 0 0 € " 5 0 + 6 : 3 \* 6 4 x 5 + , 5 6 4 0 ( + 6 9 + , ;: ( :  
\* 9 : 0 : , 9 9 0 5 : 0 < ( \* 0 5 + , 8 < , , 3 0 \* 0 , 5 ;, + , 4 6 : ; 9 ) ( 8 < , / ( ) r ( (< ; 6 9 0 + ( + :  
3 \* ( 3 : , ;: ( ; ( 3 : @ , + , 9 3 : 0 = 6 3 \* 9 + ( : , 5 3 7 9 6 ;, \*\* 0 5 + , 3 : 6 9 ( 5 0 A \* 0 6 5 ;:  
\* 9 0 4 0 ( 3 : + , + 0 ( + ( : ( 3 5 ( 9 \* 6 ; 9 Y \* 6

( ; , 5 : 0 5 : < ) 0 u + , ; 6 5 6 , 3 K H + , ( ) 9 3 + , I Q P M \* < ( 5 + 6 ( 7 ( 9 \* 0 u < 5 ( 5 6 ; ( , 5  
- \* \* < \$ 4 7 0 . 2 \* 8 ; 0 < 3 + ( X 9 9 ; : 6 : , 5 p ? 0 6 7 < 5 ; ( + , < 5 0 , ) , 9 Y , 5 3  
8 < , : , \* 0 ( ) ( 5 + , \* 3 9 \* 0 6 5 ;: + , (= 0 8 < , \* ( 3 ) \* ( ) ( 5 3 : ( 9 9 ; : 6 : + , 3 : + 6 :  
7 9 0 \* 0 % 3 0 / 6 : 7 , \* / 6 : 6 : + , 3 u 5 ; R M , , + 3 : 7 , , \* 5 ,

" 50:6: 3: -<,5;,: +, 5-694 (\*05 +, 3: Y39\*065,: (37,906+0;( ,.x5 ,3  
,?79:0+,5;,, 3 ,4)(1+( :04 734,5;,, 5,.u /(),9 :06 3 -<,5;,, +,  
5-694 (\*05 +,3(9r\*36 (<58<, ,95 ,=0+,5;,: :< /<,33: (9r( (4 r9 A  
;(4)05:,,5;9=0;u\*65,3796\*<9+69 +>5 ,,: 7(9 :630(95-694 (\*05  
\*65\*9;( +, 3: (\*<(\*065,: 35A(+(: 769 (=5 7,96 p;,, ;(4 76\*6 796769\*065u  
55.x5,34,5;6+, 5-694 (\*05 \*65\*9;( , 3 (+90+ (Y94 ( 8<, 7(9 p3,9  
4 <@34,5;())3 \*64 796)(9 8<, (=5 Y399 ( 3: 4,+0: 5-694 (\*05  
\*(34 50:( :5;,,5,9,=0+,5\*0(: :u30(: Xu3\*/04 ,:Y<sup>LM</sup>  
: 4 <@050\*(;06,37(7,3+,,: 4 7,t (+6 769,3796\*<9+69 (9r( (4 r9 A  
7(9 9:63,9 (34,56: ;,4 769 34,5;,, 3 \*65-965;(\*05 \*65,3.6)0956 +,  
,(.5 769,3(:,:5(;6 +, (4(95( 6.9u +,4 6;993 ( ,,: 8<, 3  
796\*<9+<9( 4,?0(5( /())r( ;64 (+6 ;6+(: 3: 4,+0+(: 8<, 3 \*699:765+r(5  
7(9 +,,: 5,9@5\*(9,39( 3: 9:765:())3: +0\* ;6: +, 3 4 <,9, +,3(. ,5;,, +,  
3 S† (9r( (4 r9 A,;:())3\*0u <5( 93\*05 +, \*65Y(5A \*65,3796\*<9+69  
,,: , @76\*6( 76\*63 79:05,;:(+<50+,5:, -<, \*,+05+6 5,5;9=0;(\*65,3  
:<:\*906 \*64,5;u 8<, ,3=5\* <3 \*65 3 ,4)(1+( +, ;:(+6: " 50:6: ,9 <06  
(<58<, ( 100 +,3,?796\*<9+69 (= ,: (=5 /(\*r( +, \*39\*065,: -<,9 +,  
~~369967905~~,,: \*65 3: 8<, )<\*(.)(.5(9796;(.65046 5 6;9: 6\*(;065,:5  
7(9\*r( 56,;:(9)05 5-694 (+6 " 5+r( 3 9\*34 u( (9r( (4 r9 A:<,:\*906:  
X - (=69+, 3: :(5+50;(:Y,5 <5 +0906 4,?0(56 769 3 8<, p;,, ;<=6 8<,  
(\*3993 8<, ,:6: ,:\*906: 56,95 +, :< (<69( :56 +, ,9 06 (4 r9 A  
,5;65\*,: <56+, 3: 795\*07(3: +00,5;,: :(5+50;(: LN6 ; ;65 ,A: 5,

;, 4 ( +, 35(9\*6;9mÿ\*6 56 -<, <5( 79,6\*<7(\*0u5 -<5+(4 ,5;(3 \*64 6 :r 3 -<, , 3  
+, 3: \*65 0;6: , 5 , 5;96(4 p90( , 96, 5 ,:( 9 <50u5 , 4 , 9 0u <5 5<, =6 ;, 4 (   
\*05 - 0 p 2 \* 0 - 0 +, :; +6: " 50+6: 769 3: =6;6: +, p?06 , 5 3   
~~905 0 p 2 \* 0 - 0 +, :; +6: " 50+6: 769 3: =6;6: +, p?06 , 5 3~~ ● \*065 : " 50+6: ;(. (5 / <3A @6;96: -<5\*065(96:  
905 0 p 2 \* 0 - 0 +, :; +6: " 50+6: 769 3: =6;6: +, p?06 , 5 3  
905 0 p 2 \* 0 - 0 +, :; +6: " 50+6: 769 3: =6;6: +, p?06 , 5 3

(=5:(3u+, p?06<54, :+, :7<p: ,3IM+, 4 (@+, IQN7, 96(x5(:0;0u(  
3: (<+05\*Q: :6)9 p?06 \*65=6\*(+(: 769, 3:, 5(+69 ,::, , 34: , 5 4 (@ @  
k506 +, ,:, (t6 4 04(: 8<, (796=, \*/u 7(9 9 56=(9 :<: \*9;0(: \*65;9  
-<5\*065(906: 4, ?0(56: :(: (<+05\*Q: -<, 965 7(90<394, 5;, (. 9:04: /(\*0  
, 3.6)0956 4, ?0(56 697904, 9 =, A, 5 =(90: +p\*(+(: (36: -<5\*065(906: +,  
3 (+4 050;9\*0u5 ,:7, \*034, 5;, , 3:<):, \*9;(906 , 5\*(9(+6 +, 36: (:<5;6:  
/, 4 0-p906: 306; )94: , 3(+4 050;9+69+, 3: (+<(5(: \$ 0304 =65 (()  
@, 3796706 6/5 (=5 : , 9 Y90965 ( (\*<:(\*065,: +, \*699<7\*0u5 , 0\*3: 6 (  
76:03: -9<+, : , 3\*;693: M

6;6+( 3 (+4 050;9\*0u5 +, , (.5 ,:;() ( +, (\*<, 9+6 \*65 ,:;, , 5-68<, +,  
.637, (9 7x) 30(4, 5;, ( p?06 @(:< .6)0956 6\*6: +r(: +, :7<p: , 3  
796\*<9+69 +>0



• " %' > T M ©

" 5( 4 Q +( +, \*651k5;6(37,96+6,5 8<, (=5 -<, ,4)(1+69 +, 1k56+, IQP  
( 4( @+, IQPN 9=, 3 8<, ( +0,9,5\*Q +, 6;96: 7,96+6: / 0;u96: 3: 5;, 9:,:  
@7,97,\*;Q(: +, 3: +6: .6) 0956: :6) 9 4 <\*/ 6: :, 4 (: +, 3 9 3 \*05) Q;, 9 3  
:04 734 ,5;, 56 \*65\*0+r(5 <: +0;5:(: =065,: :6) 9 3: \*65 0;6: ,5  
,5;96(4 p99( ,35(9\*6;9m\*6 , 5\*3:6 :6) 9 ,34 (5, 6 +, 3 +, <+( ,?;, 95(  
9=, 3)(5 +0,9,5\*Q: +, -65+6 8<, 7(9 9:63, 9, 6 ,=0(9+(t 6: 4( @9:  
, ?0

∴, +, ∴ 3\*0+6 Y5(3+, 3, 4)(1+69 (=5, 5 p?06 ∴: 7(q+u06 :0∴,  
\*65:0+, q, 3\* < 96+, 3: (\*65∴, \*04 05;6: 76∴∴, 969: (: <∴: (3+ (+, 37(r. @+, 3  
93\*05) 0∴∴; q3\*65 ∴∴(+6: " 50+6: p?06:r()) 90u: <∴, \*6564 r( @\*69+u <5  
! q;(+6 +, 09 64, 9\*06 \*65 ∴∴(+6: " 50+6: @ (5(+m, 5 100K (   
65∴∴; 0 < \*05 ∴, 9-694 u 7(q 9\*656\*, 9( 3 .3:0 \*(;u3( , 5 100H @3:  
∴ <∴∴: 0( 9-694 (: 763;0(∴ +, 3: 56=, 5; ( 3=965 ( <5 :0∴∴, 4( 763;06  
\*64 7∴∴; 00-6 , 5 , 3 8<, F626 \*

I X <, 9 6/5 (=5 (\*;69+, 63@66+ @+0734 m,06 5\*u4 6+6,5 p?06Y 1 &8 IP+, -,) 9,96 +,  
JHP

J 0<,3 <0A ()(t(: A8<09+6 ,5;9=0;( \*65,35.,5096 \*;(=6 <,t(: :3: =,\*56 +, Q<(+  
) 9.u5 \*<@-(4 00 4 (5;,5r( 9,3 \*65,: +, (4 0;(+ \*65 3 -(4 00 () 3: 9<A KH+, 4(9A6 +, JHII

K X6/5 (=5 (\*;69(5+(4)(: (+69;6 ,?06 <5+,9 ,(. (5 +0: (; FNY -\* \*<\$470 .2\*8 Q+, -,) 9,96  
+, JHP

L X6/5 (=5 (\*;69Y

M TM

JK 0<,3 <rA ()(t(: A8<09+6 ,5;9=0;( \*65 ,3,?(5\*39@ 4)(1+69 4 p906 ,95(9+6 ,7x3,+ 4 69 K +, 4 (9\*6+, JHJ ! (4) p5 7<,+ , \*65:<3(9, ,33) 96+, T\$α 3(: \*39748

JL , 3 ( +9+ / (\*, 9-, 95\*Q , 5 :<: 4, 4 69Q: ( , ;, \* <, 9+6 (9'6 7, 96 7(9+u0(4, 5;, 56 3 \*65:0+, 9u)X(+ (4 <@050\*(;0=6Y <' † †Š•S &2'.4)\* :2'4 7 00 5\*(4)06 3 (+4 00;9\*0u5 +, , (.5 :r 3 \*65:0+, 9u+, . 9 5 04 769(5\*Q \*64 6 3 4 <, ;: 9 5 3: , \*065, : 0;0( : +, , . <9+( + (\*65(3JQ@KH-, \*/(+(: , 3IM+, 6\*; <) 9 @ 3IN+, +0Q4) 9 +, IQP9:7, \*;0(4, 5;, :6) 9 3 763;0( 8<, ::(+6: " 50+6: +,)r( :. <0 / (\*Q p?06 4)( : +, \*065, : , t(3 5 8<, ::(+6: " 50+6: +,)r( 7964 6=, 9, : , (\* <, 9+6 \*65 p?06 \*64 6 <5( 4 (5, 9 +, (@+(96 ( 9:63, 9:<: 796) 3 4 ( : , \*65u4 06: !6+( : 3: +0;0( : +, , . <9+( + 5(\*65(3+, 3 , 9 +, , (.5 7<,+ 5 \*65:<3(9, , 5 , +, 9;65 6- 4, 9(5 \*05;0: X (:65(3 0;0; 65 (:65(3 , \* <9)@ , 5 3911, \*3\* \*84 7\* 74, 72 D 3 7: FF(: 69 F07F6ž+6\*:F5:++F05+, ?/;4 F

JM , / (5 , : \*906 5<4, 96:6: 3) 96: @ (9r\* <3: :6) 9 +0; 96: (:7, \*;6: +, 3 763;0( , ?;, 969 +, 3 (+4 00;9\*0u5 +, , (.5 " 5(<) <5( :r5;, :0 +, 3 8<, -<, : ( 763;0( : , \*5<, 5;9 , 5 † " " X 65(3 , (.5Y

JN †T\$•~ @ \$ •" š<~ X 3.6) 0956Y

JO , (5, 027(:92 X 0;(:69/ 07: (5+ 6<) 3 ;(5+(9+:Y 422 \*397> 56=04) 9 +, IQ00

JP X , ?0(5 9:0+, 5; (5+ , (.5 73+., \*3:, 93;65:/ 07Y - \* \* <\$470 .2 \*8 N+, , 5, 96+, IQP

JQ #p(:, T\$oe 8 348; \*3 7 0N! (4) p5 , +, 9;65 6- 4, 9(5 \*05;0: X (:65(3 0;0; 65 (:65(3 , \* <9)@

KH X 9:0+, 5; , (.5W ++9:: 65 , 5;9 3 4, 9( , ) -69 60; , ::65 6- 65.9::Y - \* \* <\$470 .2 \*8 JP+, () 93+, IQPK

KI 64 6 @: , \*64 , 5;u, 5 3 56;( JL 3: , \*065, : 0;0( : +, , . <9+( + (\*65(3JQ@KH-, \*/(+(: , 3 IM+, 6\*; <) 9 @ 3IN+, +0Q4) 9 +, IQP@8<, Y94 u , (.5: , 9-, 9(5 ( 3 763;0( 8<, ::(+6: " 50+6: +,)r( :. <0 / (\*Q p?06 +, 4 m +, , 5-(;0( 9 3 \*667, 9\*0u5 ) 0; , 9 3, 5 +0; 96: ; , 4 ( : (4) ( : +, \*065;0(4) ( 0; ) 9 @ 5 8<, <5 p?06 , ;: ) 3 , \*65u4 0(4, 5;, : (3+( ) 3 @ \*667, 9; 0= X: +, 00@60, 65, 76, F3, 103, 70, 0, 6, 7, 0, 6, 5, 5, p, a, Y, L, 9, 6 ( -ebQ"b;J +6: " 50+6: Y @8<, +,)r(5 :. <0 / (\*05+6:, , :<, 96: 7(9 X 6. 9 98<, p?06 , 5;05+( 4 , 69 3 763;0( , ?;, 969 +, ::(+6: " 50+6: , 5 7(9 0<3 9, 5 , 5;96(4 p0(Y

KJ <' †! †Š•S &2'.4)\* :2'4 3, 779:0+, 5;, ;0<3u 3 5(99\*0u5 X , 3\*065, : p?06 ::(+6: " 50+6: 3: ;697, A( : +, 3, 4)(1+69 (=5Y 77 KKKKO

KK 64 6 @: , / ( +0/6 (5;, : 3: 7904 , 9: \*9;0::9 \$?dF6'+ 505



M ‡ ‡ 439 .897

NK 0<,3 <0A ()(t(: A8<09+6 ,5;9=0;( \*65 ,3,?(5\*89@ 4)(1+69 4 p006 ,95(9+6 ,7x3,+  
4 69 K +, 4 (9^6+, JHJI

NL Tš•α 3(: \*39748

NI ‹ ' ‡ ‡Š•Š &2'.4)\* :2'4 77 NLNN

NI ‡~^•š X6/5 (=5 7(:6 +,3,4)(1+69 \*65;96=,90+6 ,5 p?06Y JI +, -, )9,96 +, JHP  
D³ 7: FF(?\*( 8<( +9;5 \*64 4 ?F6/ 5 .(=5 7(:6 +,3,4)(1+69 \*65;96=,90+6 ,< 4 , ?06FF

ND \$ (⊙, 695, 3: X p?06F " (: -<,5,,: +,37306Y

NP 3:(39+, 3 4)(1+( ,3x506 7(90+6 8<, +,\*3 9u 8<, (=5 / ( ) r( :0+6 <5 )<,5 ,4)(1+69-<, ,3  
-‡" s, U q +

1 788)4)\* .!7\* 42\*7.4)\* 2\_7.(&)\*1 479 @i`^kA@MEMMA

• ^ ( ~ š † ‡ • • ) ™

3 79 : , 5 ; , , 5 : ( © ( 5 ( 3 A 3 \* 6 5 ; 9 0



8<, ,5 ,3:03 ž•ž / () r( 9\* <9

4 m +, <5 :0 36 (<58<, ,::)( =0,5,, <5 (\*<,9+6 :,\*,69037(9 3 5+<:,90  
(<;64 6;90AD& 94 5&(9E+, :+, IQM<sup>H</sup>

5 IQP \*65\*0+0i 3 , 3\*\*05 79:0+,5\*03+, (96: (35(: +, 69(90,5  
p?06 \*65 3 +, ,69, \$ <:/ ,5 ::(+6: " 50+6: 5,,: +, (:<4 0,3  
76+,9 (4)6: ,5 \*(3+(+ +, 79:0+,5,,: ,3\*;6: :, ,5;9=0;(965 ,3 JJ +,  
56=04)9 ,5 6<:,65 !,?( (\*64 7(t(+6: 769 :<: 9:7,\*,0-6: ,8<076: ||  
<95,, 3 9<505 <:/ 7967<:6 3 5,.6\*0\*05 +, <5 (\*<,9+6 +, 3)9  
\*64,9\*6 7,96 56 ;<=6 (\*6.0+( @ 8<, +, (9 76660•

3 8<, ,?79:u:6)9 ,.96765;, X4 0\*65Y(5A ,5 :< \*(9m;,9 @/ () 00(+ 4 ,  
7,94 0, (:..<993 8<, 33=(9m( \*( ) 6 :<: -<5\*65,: +

5, 5, 96+, 100H, 379:0+, 5;, (35(: 500u <5( . 9 769=(96: 7(r,: +, <967(  
+65+, \*65=, 9u \*65 3: 3+, 9: +, 95 9;(t( @ 34(50 :6)9 3: \*(4)6:  
4 <5+03: , 5 796\*, :6 ( 9rA+, 3 \*(r+( +, 34 <96+, , 935 , 5 , 36;6t 6+, 100Q  
<95;, 3 9 <50u5 (5<(3+, 3 696 +, (=

,5=A+, ) $\mathbb{Q}$ ; , $\mathbb{Q}$ 37,96 (2,9,9 9;0,5; , ( 9 ( ) 993 5, .6\*Q\*05 \*65 (5(+m  
8<, 3 / ( ) r( 9 :<3(+6;(5 3) 696:6 \*65\*3<0+<95; , ,3.6) 0956 +, 379:0+, 5; ,  
, (. (5<sup>JK</sup> 3;p94 056 +, 3 9<505 , .96765; , 9\*00 05; 9<\*\*065, : +, 3  
79:0+, 5; , <:/ +, \*64 <50(9( u9+6) ( 3 +076:005 +, 3.6) 0956 +, :;(+6:  
" 50+6: 7(9 3 5, .6\*Q\*05 ) $\mathbb{Q}$ ; , $\mathbb{Q}$ 3@+, 9.9:(9( p?06 7(9 797(99, 3  
; , 9956 ( Y5+, 00093 5, .6\*Q\*05 3(5; , : 76:0 3  
3.6) 0956 4 , ?0(56 90\* (

, :: (+ <

4, 169:Y@X5<5\*( /())r(5 :0+6 4 m 04 769(5;,: 7(9 (4)6: 7(r,:Y 5;, 3  
65-,95\*Q +, 3(3,: 965;,906: +, (4)6: 7(r,: ,5 3 (:6 !,?( : ,?730u  
8<, 3 +,\*005 +, 0(+,35;, \*65 ,3;9;(+6 3)9 \*64 ,9\*6 7697(9, +, 36:  
79:0+,5;,: +, p

\*<,::65(4 05;6: (3 š' %ß" ;(3 \*64 6 ,:;() ( 735;,(+6 @ (3 <56: +, :<:  
9,79:,5;(5;,: 4 m =6\*(3: -<,965 ( +0, 9(: \*0+(+,: +, :;(+6: " 50+6:  
0\*3@5+6\$ (:/ 0. ;65 7(9 (9 <4, 5;(9(5;,, 3\*65. 9:68<, :, +, ) , 9(5  
0\*69769 9 ( 3 5, .6\*0\*0u5 3 4 0 9\*0u5 @0: 9\* <96: Y5(5\*096: 7(9 , 3  
+,: (9636 +, p?06 36 6) 3) u(3 (9 0+6 , =63\*065(906 5:;0<\*065(3D~ •E  
, 5, 376+, 9 ( : (39(3, ?;, 9069 7(9 7(9 0 0 7(9, 5, 3+, ) (;, 69 (50A +6 769 0:  
:0+0(;6: +, :;(+6: " 50+6: 36) 1;0+6 +, 3~ •, 9 , ?730(98<, 56:;, ;9;() (   
+, \*9(9 <5 4, 9\*(+6 \*64 x5 ) ( 16, 34 6+, 0, <967, 6 :06 , ?\*3: 0(4, 5;,, <5  
(\*<, 9+6 +, 3) 9 \*64, 9\*06 3 (9 0+6 +, 3 <, = ( , 4 6\*9\*0 +, (5(+m  
\*, 9\*(56 ( 0: :0+0(;6: \*(5(+05:,: 79:, 5;u, 5 3 5; 95(\*065(3 6\*0 30);( , 5  
3 8<, , 4 7, Au ( 7(9 0 0 7(9, 3~ • 9:63\*065,: \*65;9 3 5, .6\*0\*0u5 +, 3š' %ß"  
769\*65:0+, 9 96 3:0+6 ( 0: ;9) (1+69: 8<, -<, 965 (760+( : 769(:6\*0\*065, :  
763;0(: =0\* <3+( : (3 (9 0+6 , 4 u\*9;(+, :;(+6: " 50+6: <sup>kP</sup>

<:;6 \* <(5+6 ,:;() ( 769 0 0 0 9 3 5, .6\*0\*0u5 :, 7<) 3) u, 5 3 79 5:( <5  
4, 4 69 5+6 +65+, , 3, 4) (1+69 , . 96765; , 0-694 () ( (3+, 7(9(4, 5;6 +,  
:;(+6 8<, \*65 3 (796) (\*0u5 +, 3 š' %ß" : , 0. 9 9( X0:;0<\*065(3A 9 3  
(\* , 7;(\*0u5 +, <5( 69) 5;(\*0u5 ,:;(+<50+, 5: , +, 3 763;0( , ?;, 90694 , ?0(5(Y<sup>Q</sup>  
7, : (9+, 0: 4 x 3 0 3: \*64 , 5; (906: +, (3 9( 8<, :<: \*0u 3 56:( , . 96765; ,  
67;u 769. <(9+(9:035\*0 @56 , \*/ (93t ( (3-<,. 6 0 , 4) (9 6 (t 6: +, :7<p:  
, ?730 u 8<, X0 x 5 0 6 8<, ,:;() ( +0 0 5+6 , 9 8<, ;, 5, 9 <5( 9 3 \*0u5 , \*65u 4 0 (   
\*, 9\*(5( \*65 p?06 ;9, 9( ) , 5, Y\*06: 763;06:Y<sup>LH</sup> 5 :< +0\* <96 7x) 3) 6  
, . 96765; , , 5-(;0Au 3: 9(30+(+,: +, 3 \*9\*05; , 0; , 9+, 7, 5+, 5\*0 , 5;9  
p?06 @ :;(+6: " 50+6: /(\*05+6 ;(4) 0p5 9-, 95\*0 ( 3 7967<, :;(+, 3  
79:0+, 5; , <:/ :6) 9 3 500;0( +, 3: 4 p00(: (796) (+, 3(t 6(5; , 9069769  
, 3\*65. 9:6 +, :;(+6: " 50+6: 8<, 796765r( <5( A65( +, 3) 9 \*64, 9\*06 \*64 6  
4 6:69+ 3+ : (9636 @ 796:7 90(++) , 3:2( ( 3 (;. 650 <sup>U</sup>

5 1<50+, 100:, 000 3 5, .6\*0\*0u5 , 5! 6965;6 +0\*0p0 4 , : , : +, :7<p: +,  
8<, -<, 9 7967<, :; ( 769 , 99 ( 03 , 5 (=6: 0 3 9 6 +, \*(;69, 4 , : , : ,  
\*, 3) 9 965 :0; , 9 <5065, : +, 50, 34 00; , 903 65\*, +, 1-, : +, 5, .6\*0\*0u5 ,  
05<4 9) 3 +, 9 76 +, 9) (16 <sup>U</sup> 3, 8<076 5, .6\*0+69 +, p?06 , 5  
\$ (:/ 0. ;65 , 5\*() , A +6 769 , 94 006 35\*6 \*65 , 3 (760 +, 3 : , \*;69  
, 4 79:(9034 , ?0(56 0+, 5;0\*u 3 76:00u5 +, \*(+ ( <56 +, 0: 4 0 4 ) 96: +, 3  
\*65. 9:6 +, :;(+6: " 50+6: @0: \*3:0\*u, 5;9 0: 8<, ;, . <9 4 , 5\*6: (9(5, 5  
\*65;9 0: 8<, 0 / (9(5 \*65 ;6+( : , . <9, + ( 0 (=6 ( +, , ,



..03+69: 3+,9: +, 67505 , 479:(96: @+4 50;9+69: +, -65+6: +,  
7,5:65,: +, ::(+6: " 50-6: 500965 <5 \*(4 56 +, 7,9.95(\*05 ( p?06  
7(9 5-694 (9, :6)9 3: \*65+065,: 3)693: +, 4,+06 (4)05;, 6:6)9 3  
,:;()00(+ 763;0( @3 7,97,\*;0( 7(9 3 5=,905 ( Y5 +, +,;, 94 5(9:<  
76:005, 5-(-696, 5 \*65;9 +, 3 (:6\*0\*05 \*64 , 9\*03\*65 , 37(r = \*56 5;,  
3+096\*<7(\*65,: ::(+<50, 5,: (:,\*9( +, 3 7p9+0( +, , 4736: , 5 :< 7(r  
\*65 , 33) 96\*64 , 9\*6 , 34(65(65(524)P(669,%9.06765;, 90, 9u 8<, /()9(  
4 m, 4736: , 5 3: ;9: 7(r,: \*65 <5 ;9;(+6 <sup>u</sup> < ;9)( 16 \*64 6 (5Y;905 , 9  
;(4) 05 , 3+, 4,,: 65(9(., 5+(\*00(\*, 9(9( 3: =00(5;,: \*65 979: , 5;(5;,: +,  
+0: 98: (\*, \*;69: 79\* <95+6 8<, ::;<=095 979: , 5;(+6: +0;5;6: 7<5;6: +,  
5:6  
=0(6)9943;98(+6 .. 9765;5089 \*r( , 5;0: 9, 950 5: 69 (50(+(: 769  
: < , 4) (195, 850 3: 7(900(5;,: 4 , ?0(56: ( -(-69 +, 3š' %†" /() 395 (3  
Y5(3 7(9 9)(;0 3: (9 <4 , 5;6: #vw : )05,, 967, 99(5:

:(+6: " 50+6: 3



7,5( : 3. u ( p?06 65, : 69 (50Au ;9: =01: ( p?06 +, 3.

\*~~(5+0~~;6



∴, (+7;u( 3 ;9+005 +, 3 \*(5\*03)9( 4 ,?0(5( +, (42 58792 \*39&1?&7] 765,9  
,5 \*64 7(90 ,5;6: ∴,7(9+6:] 36: ∴,4 (: +, 3 (.,5+( )0; ,9 3\*65 ∴;( +6:  
" 50À

L 6),9( (1<: ,5;9=0;( \*65 6:p u9+6)( 65;6@ 1-, +, 3 Ÿ\*5(+, 3 9:0,5\*Q IQPIQJ JP+,  
56=04)9 +, JHJH

M Tgα 3(: \*3978

N >~%%' X ,?06 " ,3;05:Y

O • <" š†' &5419(&\*⇒97.47 7 NJ

P †Tg• †š" < X p?06 @ (5(+nY

Q #•' •~TM (•~•→" š( 887 \*,49897 7 INK

IH †' <~ @ ' †TM - \* 83" -4 83" 88.3,913

II †' <~ - \* 419(8 7 NH



\* <, 9+6 +, 667

LO ~·•‡ X 34 (5, 6Y7 NQ

LP ,.96765;, 1<;0Ÿ\*u:<5;, 9, 5\*0u5/ (\*05+69-, 95\*0 ( 3 \*65+<\*;( +, <5 (5;, \*, :69 X <0Am/ (@:0+6  
<5, 9969+, \*nŸ<3+, 4 07(9, 7, 96/, =0+6, 5 p?06 @\*656A\*6)05 3 / 0;690 +, 7698<p 6:, 7/ <:  
(5Q3 ,:;(5 767<39Y TŸce 1 2' &8)47 77 IKJIKK 64 6 ,.96765;, ,379670 (5Q3 -<,  
9\*Q 0+6 \*65 \*<,:;065(4 05;6: 769/ ( ), 9:0+6:, \*9;(906+, (95( +, :3...PAP

-69(3\*04 05;6 +, 3: 93\*05,: )0;,93: @\*64,903: ,5;9 p?06 @ ::(+6: " 50+6: 7,94 00m(3  
\*65;0,5;, .,94 m \*64 7;,00-6 \*65 3: )38<,: ,\*65u4 06: +, <967( @3 <,5\*( +,3 (\*rY\*6Y 1  
3; \*78&1 O+, 1-36 +, 100H 7 l p?06 :u3 /())r( Y94 (+6 <5 ;9;(+6 +, 3)9 \*64,906 \*65 /03 @  
::(+6: " 50+6: 3/())r(/,\*/6\*65 (5(+m :9,3

0 †TŠ†" ‹Š† X 5) <\*(Y7 KND



†~• ~•†•†Š†  
†~!† ‹•†!•~•

( +,\*005 +,379:0+,5;, ,37, (3+,9u5 DJH NJHJE +, 5;,5:0\*(9 \*65  
9\*<96: :5 79\*,+,5;,: 3 3\*/( \*65;9 ,35(9\*6;9Ÿ\*6 @3 +,35\*,<,5\*Q  
69(50A+( ,5 p?06 \*9u3 76:0 00+(++, \*65;:9<0<5( ,:;9\*/( \*63)69\*05  
\*65,3.6)0956+, :;(+6: " 50+6: (96: (:\*<(3<5+0734 m06796-,:65(3@  
4<@\*,9\*(56( 3 :,\*9;(90 +, :;(+6 039@ 35;65 :,9( Ÿ.<9 \*,5;93+,  
,:;, 5<=6,5;,5+04 05;6

(\*Q ,3Ÿ5(3+, :< 7904 ,9(t6 +, .6)0956 ,379:0+,5;, (3+,9u5 /())r(  
,5=0+6( 4 m+, +QA, :;(+6: +, 3 97x)3†( (\*<(95;( @\*5\*6 4 03763†r(: @  
:63(+6: ( ,5-95;(9( .9<76: +,35\*,<,5\*Q3: 36: \*<(3: /())r(5 46;:9+6  
\*(7(\*0+(+ +, ,19\*,9<5( =635\*Q \*(+ ( =A 4 m+, :7Q+(+ ( @,5 (3<5(:  
9. 65, : +,37(r /())r(5 36. 9+6 9;(9( 3 (<;690(+, :;(;(3! :;(:,\*(3+( +, 3  
:,.<90(+ 7x)3†( ,5 3: 79690(+, : +,37(r: 3 \*(4)Q9( ,396;96 ( =90:  
5:;0<\*65, : 4, ?0(5(: @ 3 93\*05)03;, 93 <n3: -<,965 36: 9;6: \*<n3:  
3: \*65;90<\*65, : 7,96 ;(4)05 \*<n3: 36: 34 0, : +, ,:;, ,4)(1+69  
, :;(+<50+,5:, ,5 3 :04 79 \*64 73†(+ ( 93\*05 ,5;9 p?06 @ :;(+6:  
" 50+6:





, : < 3 ( ) ( 7 < , : , = 0 , 5 ; , 8 < , / ( ) r ( 8 < , 9 5 6 = ( 9 , 3 4 ( 5 + ( ; 6 6 9 0 0 ( 3 6 9 2 5





‡~' • TM ‡T%b‡'

(96: (:\*<(3D( ))(5( IQE3.(9( ( p?06 7(9 (:<4 0:< \*(96 +,  
,4)(1+69\*<(;964 ,:,: +,:7<p: +,3(5<5\*06 +, 3 9,56=( \*0,5 +, 3 • ,: +, \*0  
,5<5 4 64 ,5;6+0 \*037(9 ,3(\*<,9+6) 0; ,93+, :,. <9+(+ @7(9 ,379:0+,5;,  
4 ,?0(56 ,3



-9\* <, 5\*Q 3 5, .6\*Q\*0.5 @3 ;95:-, 95\*Q +, 9\* <96: 6\* <99(5 +Q\*;(4, 5;, , 5;9 3: 4 x3073: 6Y\*5(: 8<, 9\*0 r(5 (76@: +, p99+( ( 7,: (9+, 8<, 3 \*(5\*039( 4, ?0(5( /())r( \*9(+6 X, 5;(503: x50(: Y7(9 , =0(9 8<, , :;6 : <\*, +09 69, :6, 3.6)09564, ?0(56\*9 u <5 9<76+, 36 0, 3D †” E\*65 , 37967u:06+, -( \*03(9, 3+036. 6, 5;9 36: , 5\*(9(+6: +, 3 04 734, 5;(\*0.5 +, p99+( @;3;9)( 16, 5, 8<076 3• †” : , 9 <50.7697904 , 9 =, A, 5 +004)9 +, JHP 79:0+0+6769 65+63, AA( 0, @

+(93 :,. <04 05;6 ( 3 4 <30730(+ +, 796@\*;6: 8<, 69 \*0965 (3(4 7(96 +,  
3 •“ 14 736 +, 36 (5; ,969-<, ,3 9<76 +, 669+5(\*05 +, 63;0(: D41(>  
447).38943 74: 5E +,5;96 +,3• ‡” 5 ,:;, .9<76 7(9007())(5 9.<394 ,5;,  
36: :<): ,\*9;(96: ,5\*(9(+6: +, (:<5;6: +, :,.<90(+ 7x) 37( @:,.<90(+  
5(\*65(3 @36: ,4)(1+69: +, 36: +6: 7(r,: <, +,5;96 +, ,:6: .9<76: 8<,  
(96: (:\*<(3,19\*0u:<4( @95 <,5\*Q .9\*Q: (:<: +6;,: (5(3;0(: @ :<  
\*(7(\*0(+ +, 7,9<(:05 5 67505 +,3,4)(1+69,;:(+<50+,5:, ,3,:-<,96  
5003+, \*(7;<99( 36: \*()), \*33: +, 36: .9<76: +, 35\*,<,5\*Q3: 4 m 76+,96:6:  
+,)r( +(97(:6( 796.94 (: 8<, 7<+095X,) 33(9@8<,)95;(93 \*(7(\*0(+ +,  
36: \*(9,3: 7(9 =0;04 049 \*64 <50(+,:Y ()r( 8<, ,:\*6.,9 \*65 \*<0(+6  
(3<5(: \*Q+(+,: 67,8<,t 6: ;,990696: 7(9 \*9(9X65(: :,.<9:Y<sup>JL</sup>  
65 ,:;( =005 \*669+5(+ @4 ,56: 7<500( \*65 4 m 9 \*<96: ,5-6\*(+6: ( 3  
7994 5\*05+; ,390639\*(0X0; 98+98670P 2-58:50.12+003 (:\*<(304 7<3u  
\*(4) 6: ,5 Q+(+ <n9A <5( \*Q+(+ 8<, ,5-95;()(.9=,: 796)34 (: +,  
=635\*Q , 5:,.<90(+ (:r \*64 6 ,5 65; ,99 @ 5;9 JHP @JHH Q+(+  
<n9A/ ()r( :06 +<94 ,5; , (A6;(+ 7693 =635\*Q 3: ,:;04 (\*65,: +, 36:  
+(t 6: (:\*,5+r(5 ( X04 34 <,96: 1H4 3/ <p9(56: JNH4 3,4 09+6: E&C

7(r.Y<sup>JO</sup> 5 :< 6750.5 =(3( 3 7,5( 04 735;(9,5 6;96: ,;(+6: @4 <50076:  
,::6: 796.94 (: 8<, \*65;9) <r(5 ( 9 \*65::9<03 =0( \*64 <50(90 X 5 JH1]  
9\* <, 9+( , 3, 4) (1+69] 3: \*09: +, / 64 00+6: , 4 7, A(965 ( \*(, 9)t

69 (50A+( +, 379:0, 5;,

Y\*G( +, 3



7(9



3;56(4,99(56,53 <4)9 +,3 9<76+, r6 \*,3)9+(,5 3@+,3 (94,5  
,3JJ @,3JK+, -,)996 +, JHH 5 67505 +,3,4)(1+69 3 \* <4)9 -<,  
X\*65\*,)0+( 76)94,5;,)1 (



• " %'00> TM " < TM

(96: (:\*<(36.9u , 5 76\*6: 4 , :: ( . 00\9 @69+, 5(93 , 5;9. ( + , , 8<076:  
4 , 1699 3 \*669+5(\*05 5; , 95( , 5; , 95(\*65(3 +, 3: +0;5;(: (., 5\*0:  
4 , ?0(5(: @, ::(+<50+, 5:, : \*9(9 . 9<76: +, ;9)(16 \*65Y() 3\$ 6"€0•

šOE9:765:()3 +, ,:( +00,5\*0 37,:6 +,3,1







**KO** 5;9=0;(: +, 36: (<;69: \*65-<5\*065(96: 7x) 376: -,) 9 96 4(9A6 @4( @ +, JHI

**KP** 6),96 6\*2 X0Z ,;:(+6: ,3<+,5 3\*/( \*65;9 \*94 ,5Y 1 3; \*781 JJ +, -,) 9 96 +, JHI  
D<sup>3</sup> 7: FF9/ 06, 3-50; 9(3\*64 4 ?F56;(: FQNFIM ;4 F

**KQ** X (3-, 965 \$ 020 , (2: \*(<:, +:, = 9 +(4(., ;6" , ?06 9 3; 065: Y -\*" 88 .3, 913 489 K+, 4 (9A6 +, JHI

**LH** (9@ , ;/ / , 99(5 X' (4)(::(+69;6 , ?06 9: 05: (x, 9\$ 020 , (2: 9= 3; 065: Y -\*" 88 .3, 913 489 IQ+, 4 (9A6 +, JHI D<sup>3</sup> 7: FF>>> (<:/ 06: ;6576: ; \*64 F>693+F: (4)(::(+69;6 4 , ?06 9: 05: (x, 9\$ 020 , (2: 9= 3; 065: FJHIFKFCF 3 . @; 69@ ;4 F

**LI** X (3-, 965 \$ 020 , (2: \*(<:, +:, = 9 +(4(., ;6" , ?06 9 3; 065: Y

**LJ** (9@ , ;/ / , 99(5 X' (4)(::(+69;6 , ?06 Y @ " Š & †, 88

**LK** (96: (: \* < (3 X\$ 020 , (2: , 5 \*65; , ?; 6Y 1 3; \*781 K+, +004) 9 +, JHH

**LL** X; >(: 65, 6- ;/ , ;6<./, 94 , , ; 06: : W , = 9:(; ;/ 96<./Y , : \*90 01 3 ; , \*9;(99 +, ;:(+6 , 5 :<: 4, 4 690: #p(:, '•" š•" &7) -4(\*8 7 JM

**LM** T\$ace 8 348; \*3 77 JIL JIM

&



(7,9  
'•‰

! 90; 0/63: ! 90; (7,9 " 50,90@6- 69/ (9635(

(7,9  
' "‰

\$ / 0, 95\*0 \$ / 0, (7,9 6/5: 6725: " 50,90@ 7,\*03

(7,9 633\*;65: /,90+(5 0990: " T M Q

' (4 69 (5<,3 <;099A' (4 69 (7,9 ,> 8692 0;690(3 6\*0;@

(7,9

•%ob“ ˆ” Š• TM“ ~ ˆ TMTM

9/06 0;

IJ4 :

?7,904,5; IQL IQHY -\* :83\*8 .897> \*;.\*< ONK JHU 77 LQML  
' ‡“ i” <\*( : .897.&)\* \_=(4)\*8\* 1857.2\*7482 4;.2.\*3913p

<,=( 8692 03(5+\$ (5. JHN  
<~' < +63 &., 893, 9\* 85.)8 EME EME 742 9\* .&7>4+ )41+ \*7†  
<,=( 8692 (9\*6<9 9\*, (5+ 6=(56=0/ 100K  
<~” <%o<~ \$ (3/ ,9 439& 83)4 †, &1) & >(477: 5(.b3 \*3 \*1 \_=(4)\*18, †  
ufu p?... 'Wp "%oX 0€



0764 m06 , ?0(56

q, 593\*65: 5; 95(\*65(3:E p?06 3 63.6+, p?06 JHL  
••'•Š< (3-5 XQO 5; 9=, 5; 65 5 0(q.<(Y -\* 33&B 4+ 2\*7.(#0

!‡ <0 0<,3 \_=(4 > 188 (42.843\*8 .3973&(.43&†8 ) \* 7(182 &(.43\*8  
p?06 " 50,90(+ (\*65(3 <;u564 ( +, p?06 IQK;64 6  
• Ÿ ‹ 65 D+E 2\*7.(83 ;.1" &78 - \* 3.9) 9898 893 2\*7.(8 :745\*  
&3) 9\* 7.884+9\* EJDB / (7,3 03 " 50,90@6- 69/ (9635( 9::  
JHO  
~ ‹ž' ‹~ 6),9 \$

- $\sim \langle TM \rangle g: (9 \ 1494 \ 18) 4) * 1 * 85 / 4 \quad \_ = (4 * 3 \ 18 \ 2 * 2 \ 47. \&) * 148 / * \#8) * 2.8b3$   
 $* 88) 4: 3.) * 38 * 8 \ @ \ F \ F \ D \ D \ A \ 65; , \ 99 \ @ \ , \ 5; 96 \ + , \ ; ; < + 6: \ 0; u90 * 6:$   
 $" \ 50, 90 (+ + , \ 65; , \ 99 \ @ \ J \ H \ D$
- $\sim \langle T \rangle \$ \ (* 2 \ (= (5 \ X \ 50, + \ ; ( ; : \ , * 6.50 \ 65 \ 6- \ ! / , \ 69 \ Y \ 906 \ r(A$   
 $6 = , 954 \ , 5; \ I \ P \ O \ N \ I \ P \ O \ P \ Y \ D , : 0 \ + , \ + 6 * ; 69 (+ 6E \ 694 (5 \ ! / , \ " \ 50, 90 @ 6-$   
 $23 / 64 ( \ I \ Q \ D$
- $T \langle \sim \ 6 / 5 \$ \ .512 \ 89 ( \ * 2 \ 4.78 \ J = 63 \ 6; ; 65 \ F \ < , = ( \ 8692 \ 6 < . / ; 65$   
 $0 \ 6 \ 64 \ 7 (5 @ \ F \ ! / , \ 0, 90, \ 9 : : (4) 90. , \ I \ Q \ Q$
- •  $\langle \sim \ \$ \ 669 + E \ 4 * 73839 \# \ ' \ 4$

EMGEN









~š◊†

- " % , ( 9 ! XV : , ( + ( : < 3 : , ( : ( 9 M / , , 1 \* ; 6 5 6 - ; / , \* ( 5 , \* ( 4 7 6 ! 9 ( ; @ Y . ; . 1 " & 7 . 8 4 7 > N K L J H O 7 7 K L J K O P
- ~ š < ~ 6 . , 9 X / , 5 ; , 9 7 9 , - 6 9 ; / , 4 , 9 3 ( : 5 0 0 6 Ó p

• —Ÿ 9+ - \* 3.9) 99883) \*(4 <, =( 8692u• 9 €•Øđ

(+4 00;9;05 (5+ ;/ , 6=0; ,\*6564 0 6ž

IQN  
!‡“ ‡ÿ• ( ;(+6 \* (5, \*(47) =(83& JI L IQJ  
77 MK  
!<'’• <r5 69,0A IQJ  
!<” ‡ ‡ DL EMM p?06  
699x(  
!<~ ‡ ‡™ 9,3 48 &2\*7.(8348\*3 \*1347\*89 )\*  
=(4 1& 47<.3 EJEJH p?06  
" 50,90(+ 56 IQH  
GGGGG X 3\*65;9)( ( <., 96: @33), 9(346,5,3)(16 9=-6,5;9  
IRLP@FMY .807 P 77 IOJQ  
GGGGG X(4, : ( + 5( 6:( <n9 A 9 y, 36 D669+ E 3\*1342'7  
) \*1) \*8934 2 8 2.3.89748 > \*2' &8) 47\*8 ) \* 88) 48 3.) 48 \*3  
=(4 EF EMM p?06 0<;6 69 F , \*9;(9( + , 3\*65, :  
?;, 969: IQP 77 FMHP  
GGGGG 3; \*7843\*8 \*85\*( : 1(.b3 142 &(.& 88 7 1(.43\*8 \*39\* =(4 > 148  
88) 48 3.) 48): 7839 1&).(98): 7&883833.88 p?06 " 50,90(+ (\*65(3  
<;u564 ( +, p?06 JHH  
GGGGG X( +07<;( 769 p?06 95 9;(t( (5;, 36: 796@\*;6: 7(9  
, :;) 3\*, 9 <5 796;, \*;69+6 569, (4, 90(56 (3 :<9 +, 3 9=-6Y \*( : \*3(&  
\*;.88)\* .897.&> . \*3(.88 4(.&†8 LP JHH 77 IHMIJH  
GGGGG X 00+, 5\*0 , 5;9 3: p3, : , ), 3u5 @65;9) (5+6, 5, 35699) 5;, +,  
p?06 IRLPIFMY , 5 , 37, (:;96 @ (9, 3 !, 99 A: D669+ : E .8) \*3(&>  
) .8) \*398\*3 1& .897.&)\* =(4 p?06 " 50,90(+ (\*65(3 <;u564 ( +,  
p?06 IRLPIFMY 9 <;u564 \*IPÓÀ Ôp  
GGGGG X u5+, 8<, +u 3 6\*;95( 6596, :;(+6: " 50+6: (5;, 3  
5;, 9=5\*0u5 -95\*, :( , 5 p?06Y , 5 <3, 94 6 (3\*6: @ 92( (50  
D669+ : E 154) \*7 > 1& 88, 7\* 925+

348 18) \* 1&3&(b3 2 \*=(83& ) \*9 \* \*1&a4) \* EPE- 88& 3: \*8748) `88









( 5=,::0(+6 @7<) 3(+6 :6) 9 +0;5;6: ;,4 (: +, 3 / 0;690 +,3 p?06  
+, \*04 65u50

(4) 6: 7(r.,: , 5, 3:0 3žž

‡~!‡ ‹'‡ !•~• ,: 796,:69 5=,:;0(+69 +,3 ,5;96 +, ::;<+6:  
5; ,95(\*65(3: @ 669+5(+69 +,3 96.94( +, ::;<+6: p?06 ::(+6:  
" 50+6: (5(+m+, 3 63.6 +, p?06 5 JHJH\*64 70u @,+0u ,33) 96 48



