



!



I , ?!&!7: =!0, =: !7: B/6, . /, =8!



!

=: !=50, D!-, +<-+U0=e!170B/, !. /!-!4: !=!: ;!/?0;;/6/, =!M/61M/E=0B/1J!5-B0, 7!1!//, !1: . /!

: ;!=5/!1-. /!7/: M: 40=0E-4J!M: 40=0E-4J!-, ?!. 040=-6+F1/E360=+!0113/1!;6: . !-!, 3. L/6!: ;!

?0;;/6/, =!-, 74/18!

"#\$%&' (#%)!R5--e!1-!76/-=!13. . -6+!: ;!-!f30=/?//M!L-ED76: 3, ?!0, !=5/!13LS/E=

. --=/6!5/6/8!@: J!:= !S3. M!6075=!0, =: !+: 36!M: 10=0: , !-1!5/-?!: ;!O@>#91!. 0110: , !0, !

* : 4?: B-U&!L/40/B/!;6: . !g3, /!XYYY!:=!' : B/. L/6!\]]X!-, ?!=5/, !-7-0, !;6: . !

g-, 3-6+!\]]h!:= !g34+!\]]cUE: 34?!+: 3!1M/-D!:= !O@>#91!6: 4/!0, !L60, 70, 7!-L: 3=-!-!

1/==4/. /, =!L/=<//, !* : 4?: B-!-, ?!R6-, 1, 01=60-T!P]]c]]Q!K0?!=5/!A8@8!B0/<1!: ;!

=5/!;6: N/, !E: , ;40E=!5/6/!B: 4B/!L/=<//, !+: 36!;061=-, ?!1/E: , ?!=/6. 1T!! , ?!5: <!

?0?!=5-=-!-;;/E=!A8@8F%3110-, !6/4--0: , !1: B/6-44T!!

\$&HH)!@36/8!R5/!E: , ;40E=!0, !* : 4?: B-!<-1!: , /!: ;!1/B/6-4!5--!1M6-, 7!3M!-6: 3, ?!=5/!

M/60M5/6+!: ;!=5/!@: B0/=!A, 0: , !<5/, !=5/!A@@%!/44!-M-6=8!I , ?!7//, /6-44+J!5/1/!

5-?!=: !?: !<0=5!/=660=: 6+J!M4-E/!<5/6/!0, =/6, -4!L: 6?/61!0, !=5/!@: B0/=!A, 0: , !

?0?, 9! . --E5!/5, 0E!?0B010: , 18!&, !=5/!E-1/!/: ;!* : 4?: B-J!0=!<-1!. : 6/!-!E-1/!/: ;!

1: . /!40, 7301=0EF/=5, 0E!?0;;/6/, E/1U-!4-67/6!%3110-, F1M/-D0, 7!M: M34--0: , !: , !

=5/!4/;=!L-, D!0, !=5/!R6-, 1, 01=60-, !6/70: , UL3=-!41: !E: , =6: 4!: B/6!6/1: 36E/1!-, ?!

<5-=-!5/!;-=/!: ;!=5/!6/70: , !<: 34?!L/!-;=/6!=5/!@: B0/=!A, 0: , !;/44!-M-6=8!G: 34?10=!

P* : 4?: B-Q!L/!0, ?/M/, ?/, =J!: 6!<: 34?!0=!L/E: . /!M-6=!: ;!%: . -, 0-T!!!

&, !-, +!E-1/J!5/!>@>#_O@>#!1/, =!. 0110: , !1=: !-!, 3. L/6!: ;!=5/1/!/: 6. /6!

@: B0/=!1=-=/!<5/6/!5/6/!</6/!5/1/!0, =/6, -4!E: , ;40E=18!R5/6/!<-1!-!. 0110: , !=: !

(/: 670-J!-!. 0110: , !5-B0, 7!:= !?: !<0=5!' -7: 6, : FC-6-L-D5U-E=3-44+J!</!5: M/?!

=: !5-B/!-!M/-E/!E: , ;/6/, E/!L/=<//, !! 6. /, 0-!-, ?!I N/6L-0S-, J!<50E5!<-1!

=5<-6=/?!L+!=5/!/: 3=L6/-D!/: ;!. -S: 6!5: 1=040=0/1!0, !XYY\UAD6-0, /!: B/6!>60. /-8!!



!

P* : 4?: B-, Q!26/10?/, =!P2/=63Q!H3E0, 1E50!-, ?!=5/, !P* : 4?: B-, Q!26/10?/, =!

Pa4-?0. 06Q!a: 6: , 0, !=5-!=5/+!. 075=!<-, !=: !4: : D!-=!1: . /!1: 6=!: ;!/?/6-401. J!

1: . /!1: 6=!: ;!/?/6-4!1: 43=0: , 8!! , ?J!-;=/6!1: . /!=5: 375=!-, ?!/?/L-=/!0, !\]]\J!0, !

. +!-L1/, E/U?360, 7!=5!/0, =/643?/!L/=<//, !. +!;061=!-, ?!1/E: , ?!=/6. 1U

a: 6: , 0, !-EE/M=/?!=5!/M6/. 01/!-, ?!=60/?!=: !. : B/!;: 6<-6?!<0=5!, /7: =0-=0, 7!-!

;/?/6-4!6/4-=0: , 150M!L/=<//, !* : 4?: B-!-, ?!=5!/R6-, 1, 01=60-, !6/70: , J!-41: !

0, E43?0, 7!=5!/!-3=: , : . : 31!6/70: , !: ;!(-7-3N0-!=5-!=<: 34?!6/134=!0, !-!M: 40=0E-4!

1: 43=0: , 8!!

" : =5!=5!/O@>#!. 0110: , !-, ?!=5!/O@>#!L3=!-41: !=5!/A8@8!13MM: 6=/?!-!

;/?/6-4!1: 43=0: , !=: !=5!/M6: L4/. 8!&=9!1, : =!136M6010, 78!G/%/!-!;/?/6-4!E: 3, =6+8!G/!

=/, ?!=: !L/!13MM: 6=0B/!; !: 36!B/610: , !: ;!;/?/6-401. 8!R5!/M6: L4/. !=5-!=!-6: 1!/0, !

* : 4?: B-!01!=5-!=5/6/9!1. : 6/!=5-, !: , /!=+M/!; ;!;/?/6-401. 8!W061=!: ;!-44J!;/?/6-401. !

<-1!B/6+!3, M: M34-6!-. : , 7!107, 0;0E-, =!M: 6=0: , 1!: ;!=5!/M: M34-=0: , J!/1M/E0-44+!

P=5/Q!%: . -, 0-, F1M/-D0, 7!M: M34-=0: , !0, !* : 4?: B-!L/E-31/!; ;!=5!/@: B0/=!4/7-E+!

<5/6/!=5!/!@: B0/=!A, 0: , !<-1!-44/7/?4+!-!;/?/6-0: , J!L3=!0=!6/-44+!<-1, 9-8!R5/!

1=-=/!10, !6/M3L40E1!: ;!=5!/!@: B0/=!A, 0: , !5-?!=5!/6075=!: !1/E/?/J!L3=!6/-44+!=5/+!

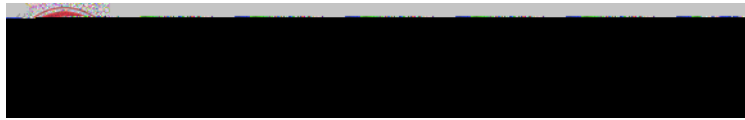
?0?, 9-8!1 , ?!=5/+!5-?!=5!/6075=!: !63, !=5/06!4: E-4!-;;-061J!L3=!5/+!?0?, 9-J!L/E-31/!

=5/+!</6/!63, !;6: . !P]]X\)]]Q!* : 1E: <8!! , ?!1: !-!4: !=: ;!* : 4?: B-, 1!6/. /. L/6/?!

=501!-, ?!=5: 375=!5-!=!-!;/?/6-4!1: 43=0: , !<: 34?!L/!-!<-+!;: 6!* : 1E: <!:=: !



!</!L-10E-44+!5-?!-76//. /, =!L3=!</!E: 34?, 9=10. M4/. /, !=5/!-76//. /, =!-, ?!
/B/, =3-44+!0=!<-1!6/\$/E=?!0, !\]]h8!I , ?!=5/, !=50, 71!76-?3-44+!L/7-, !=: !;-44!-M-6=!
;6: . !\]]d!: , 8!R501!5-MM/, /?!4: E-44+J!



>/6=-0, 4+J!&!E: 34?!1//!=5-!=L/E-31/!: ;!=5!/!%3110-, 1!&!?/-4!<0=58!R5/!=<: !
 . : 1=!M6: . 0, /, =U0, !. 0?F\]]]J!26/10?/, =!Pa4-?0. 06Q!23=0, !-MM: 0, =/?!;: 6. /6!
 260. /!* 0, 01=/6!^/B7/, +!260. -D: B!-1!50!1M/E0-4!6/M6/1/, ==0B/!;: 6!R6-, 1, 01=60-8!
 I, ?!&!?/-4=!M/61:, -44+!<0=5!260. -D: B!;: 6!-!+/-6!-, ?!-!5-4;J!6: . !. 0?F\]]]3, =0!
 &!4/;=!0, !\]]X8!I, ?!</!5-?!-!E4: 1/!6/4-=0:, 150M8!&!5-?!50!E/44!M5:, /!, 3. L/68!&!
 E: 34?!E-44!50. !3MJ!-, ?!5/!=-4D/?!<0=5!. /J!-, ?!5/!<: 6D/?!E4: 1/4+!<0=5!. /8!&!<-1!
 -!. 0?F4/B/4!I . /60E-, !?0M4: . -=8!&!5-?!-!, 0E/!=0=4/J!L3=!&!<-1!, : <5/6/!, /-6!<5/6/!
 260. -D: B!5-?!L//, !0, !=5/!50/6-6E5+8!\$/!<-1=5/!4/B/4!: ;!0. M: 6=-, E/!=5-!=!%3110-!
 ---E5/?!=: !* : 4?: B-J!-, ?!&J!&=50, DJ!-EE36-=/4+!6/4/E=/?!5/!4/B/4!: ;!0. M: 6=-, E/!
 =5-!=5/!A8@8!-===E5/?!=: !* : 4?: B-8!!

R5/!1-. /!=50, 7!P<5/, Q!C: N-D!E-. /!0, 8!&, !/-64+!\]]hJ!a: 6: , 0, !-1D/?!. /!
 -L: 3=!-!;/?/6-4!1: 43=0: , !-, ?!<- , =/?!=: !D, : <!0;!=5/!O@>#!E: 34?!13MM: 6=!0=8!&!
 =: 4?150. !&!5: 375=!</!E: 34?J!-, ?!5/!=: 4?!. /!5/!<-1!7: 0, 7!3M!=: !* : 1E: <!=: !=-4D!
 <0=5!23=0, J!-, ?!5/!=: 4?!. /!5/!<-1!7: 0, 7!=: !-1D!23=0, !=: !-MM: 0, =!-!1M/E0-4!
 6/M6/1/, ==0B/J!P]]Xb)]]Q!L/E-31/J!-!5/!1-0?J!* &KJ!5/!%3110-, !;: 6/07, !
 . 0, 01=6+J <-1!31/4/11!-, ?!<-1, 9!?: 0, 7!-, +=50, 785!!I, ?!1: !5/!/?0?J!-, ?!/B/, =3-44+!
 0, !. 0?F\]]]hJ!061=!P! 4/^- , ?/6Q!a: 4: 150, U5/9!5/!5/-?!: ;!=5/!P%3110-, !
 M6/10?/, =0-4Q!-?. 0, 01=6-=0: , U15: </?!3MJ!-, ?!5/!, !=E: 3M4/!</D!14-=/6J!C: N-D!
 15: </?!3M!-, ?!1=-6=/?!<: 6D0, 7!<0=5!5/!* : 4?: B-, 18!I, ?!&!. /=!C: N-D!
 0, ?06/E=4+!0, !=5/!1/, 1/!=5-!=5/!%3110-, 1!</6/!<: 6D0, 7!:, !=5018!R5/+!<- , =/?!=: !
 D//M!501!0, !-!L04-=/6-4!E5-, , /48!a: 6: , 0, !5-?!. /!=!<0=5!23=0, 8!23=0, !=: : D!501!
 6/f3/1=!-, ?!1/, =!C: N-D!?: <, J!L3=I5/!/ , B010: , /?!5-!=5/!%3110-, 1!-, ?!5/!

⁵B5"G?22., 5>NB_2*, 5<2"94+"M e a de @



* : 4?: B-, 1!<: 34?!S31=!<: 6D!:=: 7/=5/6J!E3=!-!?!/-4J!-, ?!/B/6+L: ?+!/41/!<: 34?!L/!
 =5/, !M6/1/, =/?!<0=5!-!;-0!-EE: . M408!

I , ?!=5/+!-4. : 1=7: =!-<-+!<0=5!0=8!" 3=!</!/: 3, ?!: 3=IP=5--0!=5/!

* : 4?: B-, 1!</6/!4//6+!-L: 3=!501U=5/!73+1!0, !>5010, -3U-, ?!=5/!

R6-, 1, 01=60-, 1!:= : J!L/E-31/!=5/+!L: =5!</6/!131M0E0: 31!:= ;!* : 1E: <!6+0, 7!:= !

: 6E5/1=6--/!-!?!/-4!-!=5/06!/ ^ M/, 1/8!I , ?!1: !;061!=5/!* : 4?: B-, 1!-, ?!=5/, l=5/!



!



!

:;!</-M: , 6+!-, ?!/f30M. /, =!0, !=5/!R6-, 1, 01=60-, !6/70: , 8!I , ?!0, !=5/!* 0, 01=6+!: ;!

K/;/, 1/!0, !* : 1E: <J!. +!<: 6D0, 7!E: , -=E!<-1!=5/!/?/M3=+!. 0, 01=/6!: ;!/?;/, 1/!;: 6!

4: 701=0E1J!=5/! a e e a P(/, /6-40!a4-?0. 06!&40E5!&1-D: B8!I , ?!5/!5-?! . /!-!

, 3. L/6!: ;!=0. /!13M!:= !501!5/-?f3-6=/618!G/!. /=!?: <, !0, !* : 4?: B-8!" 3=!&!

107, /?!-, !/^ E5-, 7/!: ;!4/=61!<0=5!50. !=5-=-!-44: </?!31!:= !5/4M!:= !;0, -, E/!-, ?!

. : , 0=: 6!=5/!%3110-, !<0=5?6-<-4!: ;!/f30M. /, =!-, ?!</-M: , 6+!;6: . !* : 4?: B-8!

G/!/?0?!-!4: =!<0=5!50. J!1: !=5/1/!</6/!6/734-6!E: , -=E=18!

&!1-<!5/!%3110-, !-. L-11-?: 61!0, !* : 4?: B-J!



!

/, : 375!73+J!-, ?!:=5/6!I . /60E-, !?0M4: . -=1!5-?!<: 6D/?!<0=5!50. 8!I , ?!&!31/?!

=: !1//!50. !-44!5/!-0. /8!!

R5/!, /`=!%3110-, !-. L-11-?: 6U=5/!4-1=: , /!-5/6/!<5: !<-1!5/6/!360, 7!

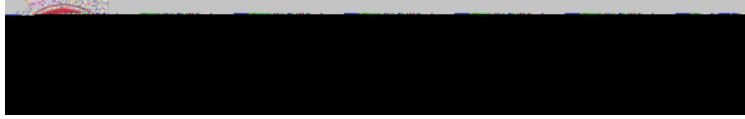
. +!=/, 36/U <-1!' 0D: 4-0!%+-L: B8!I , ?!%+-L: B!<-1U </44J!0=!<-1!;3, , +8!I 4/^ /0!

": 6: ?-BD0, !: , E/!:= 4?! . /!-5-=:C: 4+-!%+-L: B!<-1!1: . /L: ?+!5-=:+! 3!1E-6/?!

40=4/!E504?6/, !<0=58!\$/!1-0?J!k&!+: 3%/, : =!7: : ?J!C: 4+-!%+-L: B!<044!E: . /!-;=/6!

+: 38!!\$/9?!-E=3-44+!<: 6D/?!0, !R6-, 1, 01=60-!<0=5!5/!R6-, 1, 01=60-, 1!?360, 7!5/!

=0. /!: ;!5/!0, 0=0-4!;075=0, 78!\$/!5-?!1/6B/?!0, !H0=53-, 0-!-, ?!5/!>N/E5653-, 0-!-, ?!5!5-53=5!5-



! ?01044310: , . /, =8!P%3110-, !26/10?/, =" : 601Q!



!

/^ E//?0, 74+!L-?4+J!L3=!5/+!5-?!-!6/-4!/, /. +8!R5/!M6: L4/. !<0=5!=5-=!P]]h\))]]0!

<-1!=5-!=5/!%3110-, !. 040=-6+!. -+!5-B/!L//, !7304=+!: ;!. -, +!=50, 71J!L3=!5-!

>5/E5/, 1!</6/!, : =!7: : ?!73+1!/0=5/6J!-, ?!=5/+!5-?!-!, 3. L/6!: ;!6/-4!/, /. 0/1J!

-, ?!</!D, : <!, : <U=5/!%3110-, 1!=: 4?!. /!=501!-!=5/!=0. /J!=5-!=5/+!5-?!;: 4D1!

;6: . !-4Fn-/?-!-, ?!:=5/61!0, !=5/6/J!&14-. 0E!6-?0E-41J!-, ?!</!D, : <!, : <!=5-!=-!4: =!

: !=5-!=-!<-1!, : =!1/4;FS31=0;0E--=0: , 8!&=!<-1!6/-48!!

@: !-, +<-+J!>40, =: , !/, ?/?!3MU0=!<-1!-!?!0;;0E34=!6/4-=0: , 150MJ!-, ?!=5/, !

" 315!=60/?!:= !M3=!0=!L-ED!:= 7/=5/68!" 3=!-7-0, J!4: : D0, 7!;6: . !-;-6J!&9?!1-+!%3110-!

<-1!, : !=5/!. : 1=!0. M: 6=-, !=50, 7!;: 6!=5/!" 315!-?. 0, 01=6-=0: , !E: . 0, 7!0, !0, !

\]]XJ!/B/, !L/;; 6/!Y_XX8!I , ?!-;=/6!Y_XXJ!<5/, !M/: M4/!40D/!. /!=-4D/?!:=: !

G-150, 7=: , !;6: . !=5/!/0/4?J!=5/+!1-<!/B/6+=50, 7!=56: 375!=5/!M601. !: ;!Y_XX8!

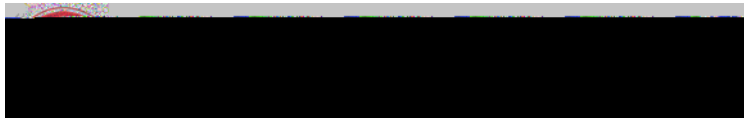


!



=50, D!: ;!=5/!/?/E010: , !;: 6!=5/!A8@8!=: l6/;31/!:= !6-=0;+!=5/!=6/-+=!L/;; 6/!%3110-!
 ;34;044/?!0=1!E: . . 0=. /, =1T!G/6/!+: 3!-6730, 7!;: 6!/ -640/6!6-=0;0E-=0: , T!G5: !<-1!
 -6730, 7!-7-0, 1=!0=T!! , ?!0;!+: 3!E: 34?!1=-6=!L+!S31!=!/440, 7!31!<5-=!0=!<-1!=5-=!<-1!
 =5/!. -0, !0113/!-=!1=-D/!5/6/T!

\$&HH)!&=91!E: . M4^ J!L/E-31/!=5/!: 6070, -4!>W#!=6/-+=UR6/-+=!: , !>: , B/, =0: , -4! 6. /?!
 W: 6E/1!0, !#36: M/U <-1!, /7: =0-=/?!-=!5/!/, ?!; ;!=5/!XYb]1J!<5/, l=5/!@: B0=!
 A, 0: , !1=044!/ ^ 01=/?!-, ?!<5/, !=5/!G-61-<!2-E=!1=044!/ ^ 01=/?!J!-, ?!0=!<-1!L-10E-44+!
 -!<-+!: ;!/?/. 040=-60N0, 7J!/, ?0, 7!=5/!E: , B/, =0: , -4!. 040=-6+!1=-, ?: ;;!L/=<//, !
 ' I RO!-, ?!=5/!G-61-<!2-E=!0, !P=5/Q!E/, =/6!: ;!#36: M/8!I , ?!0=!6/?3E/?!=5/!
 , 3. L/6!: ;!=-, D1J!-6. : 6/?!M/61: , , /4!E-660/61J!-6=044/6+J!;075=/61J!-, ?!=-=ED!
 5/40E: M=/61!5/4?!L+!-44!=5/!. /. L/61!: ;!=5/1/!-440-, E/18!R5/!M6: L4/. !01J!L+!=5/!
 =0. /!0=!/, =/6/?!0, =: !;: 6E/!0, !XY\J!0=!<-1!: L1: 4/=/J!



=5/06!; 6E/1!76-. --0E-44+J!. : 1=1?6-. --0E-44+!(/6. -, +J!L3=I4: =1!-, ?!4: =1!: ;!

: =5/61U=5/+!</6/!<-+!?: <, 8!

R5/!: =5/6!=50, 7!=5--!=5/!>W#!R6/-++!5-?!</6/!. /E5-, 01. 1!;: 6!

=6-, 1M-6/, E+!-, ?!E: , ;0?/, E/!L304?0, 78!R5/6/!</6/!?-=-!/^ E5-, 7/1J!: L407--: 6+!

B010=1J!1, -M!B010=1!=: !L-1/1!0, !: =5/6!E: 3, =60/18!R5/!%3110-, 1!E: 34?!-1D!=: !B010=!

I . /60E-, !L-1/1!0, !#36: M/J!: 6!</!E: 34?!-1D!=: !B010=!%3110-, !L-1/1J!-, ?!=5/+!5-?!>

=: !4=!31!0, 8!G/!5-?!-44!1: 6=1!: ;!. /E5-, 01. 1!: ;!D//M0, 7!=6-ED!: ;! , /!-, : =5/6!-, ?!

L304?0, 7!E: , ;0?/, E/8!&=!<-1!E: 44-L: 6--0B/!-, ?!E: : M/6--0B/J!-, ?!0=!<-1!-!6/70. /!

=5--!B/6+L: ?+!6/-44+!<-, =/?!=: !D//MJ!L/E-31/!</!5-?!-!7: : ?!6/4--0: , 150M!0, !

=5/!eY]1J!-, ?!=501!<-1!M-6=: ;!. -D0, 7!#36: M/-, 1!0, !7/, /6-4!//4!. 3E5!. : 6/!

1/E36/!-7-0, 1!=5/!;36=5/6!6/F: 3=L6/-D!: ;!<-6J!136M601/!---EDJ!: 6!-, +=50, 7!40D/!

=5--8!!

@: !</!1--6=?!, /7: =0--0: , 1!: , !-?-M=0, 7!=5/!6/-++!0, !/-64+!XYZZ8!&!D, : <-!>

L0=!-L: 3=I0=J!L/E-31/!&!-E=3-44+!<6: =/!5/!;061=!76-;=: ;!5/!-?-M=?!6/-++!5--!

<-1!=5/, !, /7: =0--/?!0, !a0/, , -J!=5/!g: 0, =!>: , 134--=0B/!(6: 3M⁶!: , !=5/!. -670, 1!: ;!

=5/!O@>#8! , ?!=5/!%3110-, 1!<-, =/?!=501!=: : 8!O, /!: ;!5/!: =5/6!6/-1: , 1!=5/!

%3110-, 1!6/-44+!<-, =/?!0=I01!5--!5/!: 6070, -4!=6/-++!E: B/6/?!=/660=: 60-44+!5/!

@: B0=!A, 0: , J!=5/!G-61-<!2-E=J!-, ?!=5/!E: 3, =60/1!0, !' I RO!-!=5/!0. /8!G5/, !

=5/!@: B0=!A, 0: , !;/44!-M-6=J!L/E-31/!: ;!0, =/6, --0: , -4!6/E: 7, 0=0: , !-, ?!:=5/6!

=50, 71J!#1=: , 0-J!H--B0-J!-, ?!H0=53-, 0-!P]]d\]]Q!</6/!, /B/6!M-6++!=: !=5/!

: 6070, -4!>W#!R6/-++8!@: !5/6/!</6/!E: 3, =60/1!=5--



7: 0, 7!=: !7/=!0, =: !=5/!#A!-, ?!M6: L-L4+!7/=!0, =: !' I ROJ!-, ?!=5/+!</6/, 9!E: B/6/?!
L+!-, +!-6. 1!E: , =6: 4!6/70. /!<5--=1: /B/68!I , ?!0;!+: 3!4: : D!-!=5/!" -4=0E1J!#1=: , 0-!
P01Q!Y]!. 04/1!;6: . !P@=80!2/=/61L367J!<50E5!01!=5/!. -S: 6!/E: , : . 0E!53L!: ;!%3110-!
: 3=!0, =: !#36: M/8!@: !=5/!%



!

E: 3, =6+!-76//. /, !=: !;: 6/07, !. 040=-6+!;: 6E/18!&, !M-6=0E34-6J!-!, 3. L/6!: ;!

E: 3, =60/1J!5/!, /<4+!0, ?/M/, ?/, !=1=-/1!: 3=!: ;!5/!@: B0/=!A, 0: , UAD6-0, /!-, ?!

* : 4?: B-!-, ?!(/: 670-!</6/!-. : , 7!=5/!. : 1=!0. M: 6=-, !=: ;!5: 1/!1=-/1U=56//!: ;!

=5/!: 6070, -4!(AI * !1=-/18⁷!H: : D!-!=5/!E: 3, =60/1!<5/6/!%3110-, !;: 6E/1!

6/. -0, /?!-;=6/5/!E: 44-M1/!; !=5/!@: B0/=!A, 0: , J!-, ?!=5: 1/!-6/!E: 3, =60/1!=5-!

6/-44+!<- , =/?!5: 1=FE: 3, =6+!-76//. /, =J!L/E-31/!=5/+!<- , =/?!=: !7/!=5/!%3110-, 1!

: 3=8!I , ?!1: !</!. -?/!6=-0;0E=-0: , !: ;!5/!I ?-M=/?!>W#!R6/-+=!E: , =0, 7/, =!3M: , !

=5/!%3110-, 1!6/-E50, 7!-76//. /, !=<0=5/5/!(/: 670-, 1!: , !=5/!<0=5?6-<-4!: ;!

;: 6E/1!-, ?!J!0, !* : 4?: B-J!; , !=5/!-E-3-4!<0=5?6-<-4!: ;!5/!%3110-, !;: 6E/1!;6: . !

* : 4?: B-8!

I , ?!L+!\]] iJ!</!5-?!7: ==/, !=5/!(/: 670-, !M6: L4/. !1/==4/?J!L3!=5/6/!<-1!

, /B/6!-76//. /, !=: , !* : 4?: B-J!L/E-31/!=5/!%3110-, 1!5-B/!;061=-!1. -4!

M/-E/D//M0, 7!/?=-E5. /, !=5/6/!/?=-0, 7!;6: . !-!;: 6. -4!-76//. /, !=L/=<///, !

>5010, -3!-, ?!* : 1E: <J!P107, /?!: , 0!g34+!XstJ!XY\J!L3!=5/+!-41: !5-B/!5/!

6/. , -, =1!: ;!5/!@: B0/=!Xth!I 6. +J!=5/! M/6=-0B/!76: 3M!: ;!%3110-, !;: 6E/1!=5-!

<-1!L-10E-44+!=5/6/J!-;=6!XY\J!=: !73-6?!5/!-61/, -4!5-!<: 34?!5-B/!M6: B0?/?!

</-M: , 1!;: 6!@: B0/=: ; 6E/1!: , !=5/!1: 3=5/6, !;6: , !=: ;!G: 64?!G-6!&&&!0, !#36: M/J!0;!

=5-!5-?!/B/6!L//, !;: 375=8!R5/6/!5-?!S31=L//, !/, : 6. : 31!-. : 3, =1!: ;!-6. 1!

1=: 6/?!0, !* : 4?: B-J!0, !M-6=0E34-6!=5/!R6-, 1, 01=60-, !6/70: , 8!R: !M3=!M6/1136/!; , !

=5/!%3110-, 1!=: !<0=5?6-<!;6: . !P]]dc)]]Q!=5/1/!E: 3, =60/1!<-1!1: . /=50, 7!=5-!

!

!"J; ON"2*, *(2+(9(+*4"J(4+-.,>; 7+, .5(>"OL(+: , .q, 5", 5<"N46<4=, @&' (" -+4?D.5-"/41 (2"9+41 "" ("

J; ON"^+-, 5.L, *.45"94+"_(1 4/+ , /E", 5<"W/454 1 ./"_(=(64D1 (5*>, 5"/454 1 .", 5<"2(/?+. *E"-+4?D"

: (*8((5** ("94?+2*, *(2"A, 645-"8. " ; L: (7.2*, 5>2*, +.5-.5"!000C** , **2*, *(("<.5"+(6, *.45"4"VQW"

5(-4*., *.452".5"!00M@! **D2 ii888@ (69(+/(5*(+@+-iD?: 6./, *.45i 1 .6. +E#/44D(+, *.45#: (*8((5#-(4+-.#

[?7+..5\(#?L: \(7.2*, 5#, L\(+: .q, 5#, 5<#1 46<4=, #-??, 1"](#)



! 1=-+0, 7!0, !>W#!-, ?!;34;0440, 7!=5/!E: . . 0=. /, =1J!L/E-. /!. : 6/!-E3=/8!" 3=!
, : , /=5/4/11J!* : 1E: <!E: , =0, 3/?!=: !1=-+!0, !=5/!=6/-++!;: 6!-!4: , 7!=0. /8!&=!<-1, 9=!
3, =04!=5/!4-=/!\]]] !!=5 -!=5/+!131M/, ?/?!=5/06!M-6=0E0M--=0: , J!L3!=5/+!1=-+/?!0, !
=5/!=6/-++ " =!



"#\$%&' (#%)!&!<- , =/?!:= !M0B: =! , : <!:= !70B/!+: 3!1/B/6-4!: ;!=5/!L6: -?/6!M: 40E0/1!;6: . !
 =5/!" 315!-?. 0, 01=6--0: , !-, ?!7/=!+: 36!6/-E=0: , !=: !=5/. !-1!-, !: ;;0E0-4!0, !#-1=/6, !
 #36: M/!-!=5/!=0. /8!R: !L-ED!3MJ!=5/!;061=!. // =0, 7!L/= < //, !26/10?/, =" 315!-, ?!
 26/10?/, =!23=0, !;- . : 314+!=-D/1!M4-E/!0, !@4: B/, 0-!0, !\]]X8!K: !+: 3!6/. /. L/6!
 +: 36!6/-E=0: , !=: !=5/!. // =0, 7!0, !=5/!. : . /, =T!!

\$&HH)!^/-58!&!<-1!<: 6D0, 7!E4: 1/4+!<0=5!260. -D: B!-!=5/!=0. /8!G/!</6/!?: <, !0, !=5/!
 < // ?!J!/, 7-7/?!<0=5!L/-=0, 7!3M!: , !=5/!R6-, 1, 01=60-, 1!<5: !</6/!6/101=0, 7!
 %3110-, !/;; 6=1!:= !7/!=5/06!. 040=-6+!/f30M. /, !=: 3=!: ;!* : 4?: B-!L+!=5/!/ , ?!; ;!
 \]]X8!&!?0?, 9!M-+!-!4: =!: ;!-==/, =0: , !=: !=5/!/?/=-0418!&!=-4D/?!<0=5!%3110-, 1!
 -L: 3=!0=J!L3!=5/+!</6/!5-MM+J!<!</6/!5-MM+!<0=5!0=J!-, ?!4: E-44+!&!?0?, 9!1//!-!
 4: !=5-=-!-;;/E=??! /!0. . /?0-=/4+8!I , ?!&!5-B/!:= !1-+!. +!-==0=3?/!:= !=5-=-!
 P]]i \]]Q!<-1!M6/==+!M-6: E50-48!&!<-1!/, 7-7/?!4: E-44+!0, !?/=-041!5-=-!</6/, 9!
 M-6=0E34-64+!0. M: 6=-, !=: !=5/!13. . 0=!4/B/4J!L3=!0!<-1!-!M: 10=0B/!M3158!!

G5-=-!0!<-1!;; 6!;; 4D1!40D/!. /!-, ?!260. -D: B!0!0=!7-B/!31!40E/, 1/!<0=50, !
 : 36!7: B/6, . /, =1!:= !E: . /!-, ?!1-+J!k\$/+J!401=/, J!</%/!<: 6D0, 7!<0=5!5/!
 %3110-, 18!G/!, //?!:= !?: !=501J!</!, //?!:= !M315!501J!</!, //?!:= !7/!=501!. : , /+J!
 </!, //?!:= !7/!=501!?: , /J!</!, //?!:= !1/, ?!501!M/61: , 8!I! , ?!&!<-1!13EE/11;348!
 R5-=-!13. . /6J!&! /-, J!. +!. 0110: , !; 6!<5-=-!</!5-?!:= !?: !0, !=/6. 1!: ;!0, 1M/E=0, 7!
 -, ?!/?/-40, 7!<0=5!5/!%3110-, !<0=5?6-<-4U&!<-1!?6-1=0E-44+!3, ?/61=-;;/?!-, ?!
 1: J!0, ?//?J!G-150, 7=: , U@=-=/!K/M-6=. /, =J!K/M-6=. /, !=: ;!K/;/, 1/J!0, !
 M-6=0E34-6J!=5/!K/;/, 1/!R56/-=!%/?3E=0: , !I 7/, E+J!5-=-!5-?!-!L3, E5!: ;!. 040=-6+!
 PM/61: , , /40U1/, =!. /!-!<5: 4/!L3, E5!: ;!M/: M4/!0, !=5/!4-=-/!13. . /6!-, ?!;-44!: ;!
 \]]X!0, !: 6?/6!:= !L//;!3MJ!:= !5/4M!5/!%3110-, 1!E: , ?3E!=5/06!: M/6--0: , 1!



!

?/1=6: +0, 7!/f30M. /, =!: 6!150MM0, 7!0=: 3=: ;!* : 4?: B-!0, !=0. /!=: !. -D/!=5!/;061=: ;!

=5!/??-?40, /1!1/!=!L+=5!/!&1=-, L34!@3. . 0=8!R5/+!5-?!=: !7/!=5/06!=6/-+=F40. 0=/?!

/f30M. /, =!: 3=!L+=5!/ /, ?!: ;!=5-!+/-68! , ?!=5/+!?0?J!;: 6!=5/!. : 1=!M-6=8!G /!

7-B/!=5/. !-, !/^=/, 10: , !: , !1: . /!: =5/6!1=3;;U=5/!\]]\!/?-?40, /J!=5/!2: 6=: !

. //!=0, 7!0, !K/E/. L/6!: ;!\]]P\08⁸!" 3=!L-10E-44+J!</!</6/!<: 6D0, 7!<0=5!=5/. J!

<: 6D0, 7!5-6?8!I , ?!=5-!=!13. . 0=J!5/!HS3L4S-, -!@3. . 0=J!5/4M/?!<0=5!=5--8!&=!<-1!

L-10E-44+!-!M: 10=0B/!=50, 78!!

&!+: 3!<-, =!=: !7: !0, U&!?0?, 9!5/-6!P0=!?06/E+!L3=0!&9B/!1//, !=5/!B0?/: !: ;J!

k&9B/!4: : D/?!0, !501!/+/!1!-, ?!7: !=-!1/, 1/!: ;!501!1: 3481¹⁹!&!. /-, J!0, ?0B0?3-4!4/-?/61!

1M/-D/!^ !=/. M: 6/!1: . /=0. /!P]]i d]]]Q!-, ?!7: !M4-E/1!<5/6/!=5/06!1=-; ;1!-6/!

5: 660/0?8!I , ?!&!50, DJ!;6: . !<5-!=!>: , ?0!%0E/!-, ?!" : L!(-=/1!1-0?!-;/=6<-6?1J!

E4/-64+!=5/+!401=/, /?!=: !501!-, ?!1-0?J!kO5!. +!(: ?J!<5+!?0?5/!1-+!5-=-T!123=0, !

M3=: , !501!L/1!;-E/!;: 6!50. J!-, ?!0=!<-1!//;/E=0B/J!-, ?!0=!<-1, 9=J!-!=!5-!=!0. /J!

, /E/11-604+!-!L-?!=50, 78!&=1/!=!5/!1=-7/!;: 6!=5/, !23=0, !=: !L/!B/6+!5/4M;34!-;/=6!

Y_XJ!-, ?!</!<: 6D/?!E4: 1/4+!: , !-!, 3. L/6!: ;!=50, 71!</44!0, =: !=5/!/?/E-?/8!@: !, : =!

=5/!;061=!-, ?!=5/!4-1=!/, E: 3, =/6!L/=<//, !1/, 0: 6!4/-?/61!<5/6/!; , /!: 6!L: =5!: ;!

=5/. !<044!10. M4+!<-, ?/6!: ;!<5/6/!=5/06!M/: M4/!-6/!S31=!, : =!M6/M-6/?!: 6!=50, D!

0=91!3, <01/8!" 3=: ;: 6!=5/!0. /J!&!?0?, 9!=50, D!-!4: !=-L: 3=10=8!!

!G



!<-1!40B0, 7!0, !* : 4?: B-J!-, ?!<0=5!<5-=!&!<-1!?: 0, 7!<0=5!%3110-J!&!<-1!

40B0, 7!0, !-!%3110-, !. /?0-!/, B06: , . /, =8!@: !+: 3!5-B/!=: !6/. /. L/6J!&!5-?!-46/-?+!

7: ==/, !-!6/-4!5/-B+!?: 1/!: ;!23=0, !-, ?! : ;!M/: M4/!-6: 3, ?!23=0, 8!I , ?!-!=5-!=0. /J!

=5/!%3110-, !!6/-44+!40D/?!23=0, 8!G5/, !5/!L/E-. /!M6/10?/, =J!. : 1=!: ;!5/!%3110-, !

: ;;0E0-41J!-4. : 1=-44!: ;!5/!%3110-, !: ;;0E0-41!=5-=!&!D, /<J!</6/!6/-44+!5-MM+8!

G5-=/B/6!=5/06!L/, =U40L/6-4J!E: , 1/6B-0B/J!<5-=/B/6U=5/+!</6/!6/-44+!5-MM+

=: !5-B/!50. !-1!M6/10?/, =J!-, ?!5-!=4-1=?!;: 6!f30=/!1: . /!=0. /J!L/E-31/!5/!<-1!

4: : D/?!-!=1!/?/E010B/J!E-M-L4/J!0, =/4407/, =J!</44!M6/M-6/?J!. -, +=50, 7!40D/!=5018!

I , ?!1: !&!4: : D/?!-!=!0=J!-, ?!" 315!1-+0, 7!=501!-L: 3=!P]])i c)]]Q!23=0, J!&!?: , 9!

6/. /. L/6!-!1=6: , 7!6/-E=0: , !-L: 3=!0=8!&!6/. /. L/6!L/0, 7!5-MM+!=5-!=!</!5-?!=5/!

M315!=: !?: !<5-=!&!<-1!?: 0, 78!' : <J!0;!=5-!=!<-1!=: :!. 3E5!0, !=5/!</?1J!1: !L/!0=8!&!

1=044!4: : D!-!=!0=-, ?!1-+J!&9B/!1//, !: =5/6!M6/10?/, =1U: 36!: <, !-, ?! : =5/6!U1-+!

=50, 7!!=5-!=!5-B/!L//, !;-6!. : 6/!1=3M0?!: 6!?- . -70, 7!=5-, !=5-8!" 3=J!: B/6-44J!S31=!

6/4-0B/4+!M: 10=0B/!-1!=5: 1/!=50, 7!1!7: 8!!

"#\$%&' (#%)!I , ?!: , /!: ;!=5/!=50, 7!!=5-!=!5/!" 315!-?. 0, 01=6-0: , !?0?0!, !=5-!=!061=!



!

=56//!+/-61!/-640/6J!15: 6=4+!L/;/: 6/!&!</, !=: 3=!=: !* : 4?: B-J!&!<-1!M4-+0, 7!7: 4;!-=-!-!

7: 4;!E: 361/!?: <, !1: 3=5!: ;!a0670, 0-J!-, ?!. +!1: , !-, ?!&!7: =!M3=!0, !-!/: 361: . /!

<0=5!<: !73+!1!6: . !=5/!" -4401=0E!* 01104/!K/;/, 1/! : ;0E/U -, ?!&!5-?!L//, !

<: 6D0, 7!/: 6!=5/!K/M-6=. /, !=: ;!K/;/, 1/J!1/E: , ?/?8!I , ?!1: !</!7: !=-4D0, 7J!-, ?!

=5/+!</6/!-1D0, 7!. /!-L: 3=!5/!. 01104/!?/;/, 1/J!. +!B0/<1!P-1Q!-!@=-=!/

K/M-6=. /, !=!73+J!-, ?!&!=: 4?!50. !&!<-1!L-10E-44+!13MM: 6=0B/!/: ;!<5-=-!5/+!</6/!

?: 0, 7!=5/6/8!R5/+!7: !=L07!1. 04/1J!-, ?!&!1-0?J!kO;!E: 361/J!L/;/: 6/!+: 3!=-4D!-L: 3=!

?/M4: +0, 7!0=J!P]]i b)]]Q!&!<- , !=: !. -D/!136/!=5-=-!0=94!<: 6DJ!-, ?!&!<-=-E5/?!=5/06!

;-E/1!;-448!

P(/: 67/!G8!" 315e1!@/E6/=-6+!: ;!K/;/, 1/!K: , -4?Q!%3. 1;/4?!6-, !-, !

0, 0=0=-0B/!0, !=5/!eY]1!: , !=5/!. 01104/!?/;/, 1/!7-MUL-10E-44+J!-!4: , 7!M6: S/E!=5-=-!

E-44/?!/: 6!. : 6/!. 01104/!?/;/, 1/8!I , ?!&!L/4: , 7!=: !=5-=-!1E5: : 4!: ;!I . /60E-, !

: ;0E0-41U&4: : D!-=-!0=-, ?!1-+J!kR5/6/9!!, : =50, 7!<6: , 7!<0=5!501J!L3=!</!5-?!-!

M/6;/E=4+!7: : ?!-76//. /, !=!5-=-!<-1!<: 6D0, 78!&=?0?, 9=!M6/B/, =!6/1/-6E58!G5+!=5/!

5/44!</!5-?!=: !7: !-, ?!0M!: B/6!=5/!-MM4/!E-6=L/;/: 6/!</!5-?!1: . /=-50, 7!=5-=-!</!

</6/!6/-44+!136/!/: ;J!1: . /=-50, 7!=5-=-!</!E: 34?IM6: B0?/!-!6/-44+!7: : ?!/ M4-, --0: , !

: ; 6J!-, ?!5-=-!<: 34?!, : =!3M1/=-!6/4=-0: , 150M!=5-=-!<-1!L-10E-44+!0, !7: : ?!15-M/TI!!

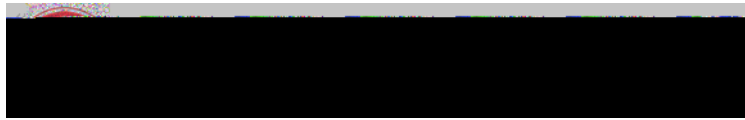
^: 3!5-B/!=: !6/. /. L/6!=5-=-!J!0, !XY\!<0=5!5/!A8@8!-, ?!%3110-J!</!1-0?!

=5-=-!</!</6/, 9!7: 0, 7!=: !=-67/=-!/-E5!: =5/6!-, +. : 6/8!I , ?!</!L/E-. /J!M-6=, /61!

-, ?!;60/, ?4+8!R5/0. 240!-, ?/0. 224000. (-=)]T(/!A)0. (000. 20640. 1)]0/T00. 240640. 08cmBTq0. 240.



=5--!-EE: . M4015/?J!&!50, DJ!<-1!:= !/6: ?/!1: . /! : ;!5--!. 3=3-4!=631=8!! , ?!0, !=5--!



" 3=>40, =, !E-. /!0, !<0=5!-!L3, E5!: ;!73+1!;6: . !P=5/Q!%I ' K!

P>: 6M: 6--0: , Q!<5: !5-?!L//, !=50, D0, 7!-L: 3=0!-, ?!</6!E: , B0, E/?!=5-!=

/^ M-, ?0, 7!' I RO!<-1!=5/!<-+!:= !6-, 1;: 6. !>/, =6-4!#36: M/8!I , ?!&4: : D/?!-=!0=J!

5-B0, 7!E: . /!: 3=!: ;!=5/!10`!: 6!. : 6/!+/-61!/?/-40, 7!06/E+4+!<0=5!=5/!76: <0, 7!

E60101!0, !^37: 14-B0-J!5/, !=5/!" -4D-, !G-61J!&4: : D/?!-=!0!-1J!<5-!=!E: 34?!</!?: !=: !

1=-L040N/!>/, =6-4!#36: M/T!I , ?!&9. !-, !501=: 60-, J!-, ?!0!+: 3!4: : D!-=!5/!501=: 6+!: ;!

>/, =6-4!#36: M/U 2: 4-, ?!\$3, 7-6+J!>N/E5: 14: B-D0-J!%: . -, 0-J!" 347-60-U

L/=<//, !XYb!-, ?!XYdX!0=91!, : !=!M6/==+!M0E=36/8!" +!XYhYJ!=5/+%/!-44!;-1E01=: 6!

M6: =: F;-1E01=8!R5/!/?/. : E6--0E!/` M/60. /, =!15-B/!6/-44+!;-04/?!0, !-44!: ;!=5/. 8!I , ?!

=5/+!5-B/!4: , 7F=/6. !/, . 0=0/1!L/=<//, !/-E5!: =5/6!-1!</44!-1!<0=5!%3110-8!!

&, !XYbbJ!&!B010=/?!\$3, 7-6+!-, ?!%: . -, 0-!360, 7!-!0. /!<5/, !5: 1=040=0/1!

</6/!L6/<0, 7!L/=<//, !=5/!<=: !: B/6!R6-, 1+4B-, 0-!-1!=5/!G-61-<!2-E=01!1=-6=0, 7!

=: !?010, =/76--=8!G/!</6/!<: 660/?!-L: 3=!<5--=!P@/E6/=-6+!: ;!@=-=0!G-66/, !

>5601=: M5/6!E-44/?!-!1/E360=+!B-E33. !0, !>/, =6-4!#36: M/8!I , ?!-1!=5/!/?/L-=/!

L/7-, !: B/6!' I RO!/ , 4-67/. /, =J!P]X)d]]Q!&!<-1!M/613-?/?!L+!=5/!-673. /, =!

=5-!=<-1!. -?/!1M/E0-44+!L+!%: , P-4?Q!I 1. 31J!PW8!@=/M5/, Q!@=/B/!H-66-L//J!-, ?!

: =5/61U/1M/E0-44+!0, !. +!L: : DJ!&!31/!=5/06!F e Affa !-6=0E4/J!L/E-31/!0=!<-1!

-!E: , B/, 0/, =!1=-=/. /, !=: ;!=5/!7/, /6-4!-673. /, =J!7/, /6-4!40, /!5-!=</!, //?!=: !

1: . /5: <!/, E: 36-7/!-!13EE/11;34!6-, 10=0: , !0, !>/, =6-4!#36: M/8²⁰!!

I , ?!<5/, !M/: M4/!40D/!P@/E6/=-6+!: ;!K;/, 1/Q!" 044!2/66+J!P>5-06. -, !: ;!=5/!

g: 0, !=>50/;1!(/, /6-4!g: 5, !@5-40D-15B040!E: . /!3M!-, ?!1-+J!kG5-=-!-L: 3=!%3110-TI!

! "G45,6<"021?2"G./' ,+<"a?-6(+, 5<"Q@)*=(5"3,+,: ("8(+("2(5.4+, 5, 6E2*2", *GOH_"8' (5"* (E" /4, ?* 4+(<"K?.6<.5-" ,H(8"HO&^>]"F e A a >=46@P\$A)(D*(1: (+#^/*4: (+!00%<"\$ZFUT@021?2" 84?6<"-4"45"*4": (/41 ("<(D?"E", 22.2*, 5**2(/+(*, +E"49?2*, *("94+W?+4D(, 5"O99, .+2".5"V6.5*45c2"2(/45<"*(+1 @



!
=5/!-, 1</6!<-1J!L-10E-44+J!</!E-, !?: !L: =58!G



@/6L0-!P-, ?Q! * : , =/, /76: !0, !XYYyp!-, ?!=5/, !;0, -44+!' I RO!/?/M4: +. /, !=!: !

I ;75-, 01=-, !M: 1=F\]]\8!!

' I RO!/?/B/4: M/?!-, !/^ M/?0=0: , -6+!E-M-L040=+UL: =5!-, !/^ M/?0=0: , -6+!

0?/: 4: 7+!0, !-!1/, 1/J!: 6!-=!4/-1=!M6: B010: , 1!0, !: ;;0E0-4!' I RO!/?: E3. /, =!!=5--!

-44: </?!;: 6!' I RO!. 040=-6+!-E=0B0=0/1P]X)]b)]Q!: 3=10?/!/: ;!' I RO!E: 3, =60/1!=5--!

</6/!, : =!/?;/, 10B/J!<5/=5/6!M/-E/D//M0, 7!: 6!<-6F. -D0, 7J!-, ?!' I RO!/, 7-7/?!

0, !13E5!: M/6--0: , 1!0, !" : 1, 0-F\$/6N/7: B0, -J!C: 1: B: J!-, ?!=5/, !I ;75-, 01=-, 8!!

@: !=5/!%3110-, 1U/1M/E0-44+!-;=/6!5/!1/E: , ?!<-B/!P: ;!' I RO!/ ^ M-, 10: , QJ!

=5/+!4: : D!P-, ?Q!' I RO!01!, : =!: , 4+!/^ M-, ?0, 7J!L3=!0=1!6: : M1!-6/!/ , 7-7/?!0, !

. 040=-6+!: M/6--0: , 1!0, !=506?!E: 3, =60/1J!1: . /-0. /1!0, !. -D0, 7!<-6!-7-0, 1!=5/1/!

=506?!E: 3, =60/1!: 6!/4/. /, =!10, !=5/1/!=506?!E: 3, =60/18!I , ?J!:= !. +!M/6E/M=0: , J!:=501!

E: , ?0=0: , /?!=5/!L-10E!%3110-, !===0=3?/!:= <-6?1!' I RO!-1!. 3E5!-1!=5/!-E=: ;!

M: 40=0E-4!/ ^ M-, 10: , 8!&, E43?0, 7!%3110-!:= !=5/!/^ =/, !=!</!E: 34?U0, !2;2J^!-, ?!=5/!

P2/6. -, /, =!g: 0, =Q!>: 3, E04J!-, ?!=5/!' I ROF%3110-!>: 3, E04U0, E43?0, 7!%3110-!0, !

=5/!/?0-4: 73/!</6/!7: : ?!1=/M18!" 3=!+: 3!E-, 9!7/=-!-6: 3, ?!=5/!M6: L4/. !=5--J!0;!

' I RO!01!-!M: 40=0E-4!-, ?!. 040=-6+!-440-, E/!=5--!01!, : =!: , 4+!/?;/, 10B/!L3=!/ ^ M40E0=4+!

-?: M=1!-!M: 1=36/!=5--!0=!E-, !-, ?!<044!E: , ?3E=!M/-E/D//M0, 7!: 6!M/-E/. -D0, 7!

: M/6--0: , 1!0, !=506?!E: 3, =60/1UP=501Q!<-1!1: . /-50, 7!=5--!&!50, D!6/-44+!. -?/!=5/!

%3110-, 1!10=!L-ED!-, ?!=50, D!-L: 3!=5018!R5/+!1=044!<: 6D/?!<0=5!' I RO!E4: 1/4+U

S: 0, !=/^ /6E01/1J!: =5/6!E: : M/6--0: , U </44!0, =: !\]XhJ!L3=!5/+%/!4: : D0, 7!-!=501J!

! "F, +*5(+2' .D"94+"F(, /("AF9FC>"8' ./' "G?22., "q4.5(<>"8, 2"499./., 66E"(2*, : 6.2' (<"5"!00U@O//4+<.5-"*4" HO&^c2"8(: 2.*(>"F9F"(5, : 6(2"D, +*. / .D, 5*2"*4"<=(64D", 5".5<.=.<?, 6"+(6, *.452' .D"8.* "HO&^>/' 442.5-" * ("485"D+.4+.*.(2"94+"/44D(+, *.45>, 5<*** ("6=(6, 5<"D, /("49"D+4-+(22)"

A



\$&HH)!" -10E-44+J!=5/!O@>#15-?!=: !L/!, /3=6-4!L/E-31/!-3=5: 60=0/1!;6: . J!AD6-0, /U ;: 6!
 /`-. M4/J!=5/!O6-, 7/!%/B: 43=0: , UP;: 6. /6!AD6-0, 0-, !26/10?/, =!H/: , 0?Q!
 C3E5. -!01!6/M6/1/, =/?!0, !=5/!P]X)X\)]]Q!O@>#8!R5/!%3110-, 1!-6/!6/M6/1/, =/?J!
 : =5/61!-6/8!G/!</6/!L-10E-44+!13MM: 6=0B/J!L/E-31/!E/6=-0, 4+!=5/!%: 1/!%/B: 43=0: , !
 -, ?!=5/!O6-, 7/!%/B: 43=0: , !</6/!0, !=5/!?06/E=0: , !: ;!13MM: 6=: ;!?/. : E6--=0E!
 1=-, ?-6?7J!-, =0FE: 663M=0: , J!-, ?!=5/!40D/J!-, ?!=5/1/!-6/!M60, E0M4/1!=5-!</!5-?!
 L//, !13MM: 6=0, 78!O;;0E0-44+J!! . /60E-, !-, ?!G/1=/6, !' (O1!</6/!/?//M4+!
 0, B: 4B/?8!R5/!E: 3, =60/1!</6/!, : =!;: 6. -44+!0, B: 4B/?!0, !13MM: 6=0, 7!=5/. J!L3=!&
 =50, DIE/6=-0, 4+!</!</4E: . /?!=5/!6/134=18!!

R5/!%: 1/!%/B: 43=0: , J!0, =/6/1=0, 74+J!: EE366/?!=5/!1-. /!<//D/, ?!=5-!l=5/!
 C: N-D!* /. : 6-, ?3. !E60101!E-. /!=: !-!5/-?8!&, !;-E=J!@5/B-6?, -?N/!<-!E-660/?!
 : 3=: ;!5/!M-640-. /, =!5/!1-. /!, 075=!5-!&!<-!-Ef3-0, =/?!<0=5!5/!-6=0E4/1!0, !
 =5/!C: N-D!* /. : 6-, ?3. !-L: 3=!5/!. 040=-6+!M6/1/, E/!-, ?!1/, !=5/. !: ;!:=: !
 E: 44/-73/1!0, !R5/!\$-73/J!0, !" 6311/41J!-, ?!0, !G-150, 7=: , 8²³!I , ?!1: !&!;: 44: </?!
 =5-!J!L3=J!0, ?06/E=4+8!!

&!;061=!5/-6?!-L: 3=!0=4-=/6J!;6: . !-!1/, 0: 6!G/1=/6, !: ;;0E0-4!<5: !B010=/?!
 (/ : 670-!0, !g-, 3-6+!: ;!\]]d!-, ?!E-. /!L-EDJ!-, ?!5/!5-?!?0, , /6!<0=5!. /U=501!01!
 1: . /L: ?+!;6: . !=5/!>: 3, E04!: ;!#36: M/J!P-Q!1/, 0: 6!: ;;0E0-48²⁴



O@>#!: ;0E0-48!|| , ?!5/!1-0?J!k^: 39B/!7: !=: !?: !1: . /=50, 7!-L: 3!=501!73+J!+: 39B/!
 7: !=: !6/1=6-0, !50. J!P]X)Xd)]]Q!L/E-31/!@--D-15B040!<-!;344!: ;!50. 1/4;J!-, ?!5/!
 <-!17: 0, 7!:= !M344!| ?S-60-J!| LD5-N0-J!-, ?!@: 3=5!O11/=0-!L-ED!0, =: !(/: 670-!B/6+!
 f30ED4+8!R5/!%3110-, !11/, =!PW: 6/07, !* 0, 01=/60!&7: 6!&B-, : B!?: <, !=: !5/4M!50. !
 : 3=8!R5/!%3110-, !6/-E=0: , !=: !=5/!(/: 670-, !%: 1/!%/B: 43=0: , !<-!1, : =!5: 1=04/!
 0. . /?0-=/4+J!-, ?!=5/+!-E=3-44+!5/4M/?!@--D-15B040!7/=!60?!: ;!PE5-06. -, !! 14-, 0!
 | L-150?N/!0, !! ?S-60-J!|L3=!501!?/. -, ?!1!;: 6!6/0, =/76--0: , !: ;!@: 3=5!O11/=0-!-, ?!
 | LD5-N0-!6-M0?4+!L/E-. /!:= :!. 3E5!;: 6!=5/!%3110-, 1J!-, ?!=5/!6/4--0: , 150M!
 =36, /?!6/-44+!5: 1=04/!?360, 7!=5/!E: 361/!; ;!\]] i [\]] c8!@--D-15B040!=60/?!:= !=-D/!
 @: 3=5!O11/=0-!L-ED!L+!;: 6E/!0, !\]] cJ!;: 6!=5/!;061=!0. /J!-, ?!L+!\]] bJ!=5/+!P=5/!
 %3110-, 1Q!



!



!/? . : E6-E+!-E=0B01=1!0, !%3110-!-, ?!:=5/6!1=3;;J!-, ?!=5/!%3110-, 1!-6/!4: : D0, 7!-!=
 =501!-, ?!=50, D0, 7J!kG5/6/!01!=501!7: 0, 7!:= !/, ?T!I! =!4/-1=1!: . /!%3110-, 1!-6/8!
 &!= -D/1!-!<504/J!L/E-31/!=5/6/!-6/!. -, +!7: : ?!-1M/E=1J!<: 6D0, 7!-1M/E=1!
 =: !=5/!6/4=-0: , 150M8!" 3=!34=0. -=/4+J!/1M/E0-44+!L: =5!%0E/!-, ?!(-=/!5-?!-, ?!5-B/!
 E: , 10?/6-L4/!6/10?3-4!. 01=631=!: ;!%3110-!-!-, !-3=5: 60=-60-, !1=-=/!1=/. . 0, 7!
 ;6: . !=5/06!1=3?+!: ;!%3110-!-, ?!<: 6D!<0=5!%3110-!0, !=5/!@: B0/=!M/60: ?8!&D, /<!
 (-=/!1<5/, !5/!<-!10, !>&! J!-, ?!&!6/. /. L/6!L-==4/1!=5-!@=-=/!&' %!P" 36/-3!: ;!
 &, =/4407/, E/!-, ?!%/1/-6E50!5-?!: B/6!5: <!:= !0, =/6M6/=!=50, 71!=5/!@: B0/=!1</6/!
 ? : 0, 7J!-, ?U&!?: , 9!<- , !=501!:= !L/!:= : !M/S: 6--0B/J!L3!=5/+!/, ?!:= !4: : D!
 P]X)\b)]]Q!<0=5!131M0E0: , !-!=!%3110-8!I , ?!1: !=5/+!4: : D/?!P<0=5Q!131M0E0: , J!&!-50, DJ!
 <0=5!23=0, 8!!
 R5/!(-=/!16/1M: , 1/!:= !=5/!* 3, 0E5!1M//E5J!+: 3!D, : <J!-5--!k5/!4: : D1!0, !
 501!/+/!1-, ?!5/!1//!1C (" I U !P501Q!4=-/6!6/1M: , 1/8!R5/!0, 0=0-4!: , /!<-!1!7: : ?8!g31=J!
 kG/9B/!5-?!: , /!E: 4?!<-68!R5-!=!<-!1/! , : 3758!28!H/-B/!0=J!-, ?!4/=!50. !L4: <!: ;;!
 1=-/. J!-, ?!5/, !7: !-, ?!1//!<5--9!16/-44+!L/50, ?!0=8!R5/+!. -+!5-B/!=5: 375=!: ;!
 =5/. 1/4B/1!-1!M6-7. --01=1J!L3=!%0E/!. : B/?!: B/6!;6: . !' @>!:= !@=-=/!;: 6!5/!
 1/E: , ?!-?. 0, 01=6--0: , J!L6: 375=!<0=5!5/6!-!<5: 4/!5: 1=!: ;!;: 4D1!-5-!=!5-?!L//, !
 <: 6D0, 7!<0=5!5/6J!/1M/E0-44+!: , !#36: M/J!5/!1: FE-44/?!L-L+!KI @@/!P?/M3=+!

! "
 "O**" (* . 1 (> .5"+(2D452("4F?* .5c22D((/' " .5"N?5./' >J, *(2"2, .<>"^5("/46<"8, +"8, 2"d?*" ("(54?- ' >]"
 ' **D2 ii888@8@41 i(5i?2#<(9(52(#/' .(9#*4#D?* .5#45(#/46<#8, +#8, 2#(54?- ' i, #%UU\$OZ@B5" .2"
 1 (1 4.>+J, *(2"8+4* ("** , ** ("D+. =, *(6E**46<" .2"/466(, -?(2"** , **Bc<"6447(<" .5*4"F?* .5c2"(E(2", 5<"g?2*", 2"
 (ID(/*(<" , <"2((5", "2*45(#/46<"7.66(+@]G4: (+*N@J, *(2>D Me a Sec e a a Wa "AH(8"
 b4+7"O69+(<"O@a54D9)"\$T!UC!"!MZfMO>"p./("F+(2.<(5*"G./' , +<"V' (5(E"8+4*(".5" .2"1 (1 4.>+/4 1 1 (5* .5-"
 45** ("9.+2**1 ((*.5-": (*8((5"K?2' ", 5<"F?* .5>"\R' (5"B"6447(<" .5*4" .2"(E(2"B"2, 8", 5"46<"aJK" , 5<@]
 G./' , +<"K@V' (5(E", 5<"3.L"V' (5(E>I M T e A P e a a d P ca Me AH(8"b4+7"&' +(2' 46<"
 W< .452>\$T!C%\$M&@! ("6, * ("(5, *4+"\$4' 5"N/V, .5"AG#OeC"49*(5"?2(<"** ("946648.5-"6.5("<?+.5-" .2"
 /, 1D, .-5"94+"D+(2.<(5** .5"\$TTPFTZ "\B"6447(<" .5*4"N+@F?* .5Q"(E(2", 5<"B"2, 8** +(("** .5-2"##", "a", 5< , "J"
 , 5< , "K@]\$, /7. ("V, 61 (2>"N/V, .5")((2")41 (* .5-"W62(" .5"F?* .5c2"WE(2]"Wa S ee J a >!M" ^/4: (+"
 \$TTP>" **D2 ii888@82@41 i, +. /6(2iK3#R K#%\$@""



!

-1101=-, =!1/E6/=-60/1!: ;!1=-=/QUPI 1101=-, =!@/E6/=-6+!: ;!@=-=/!: ;6!#36: M/!-, ?!

#36-10-!K-, 0/4Q!W60/?!-, ?!=5!/E6/<!5-!5-?!L//, !<: 6D0, 7!<0=5!50. 8!I , ?!=5/+!

</6/!5-6?40, /8!I , ?!=5/+!</6/!4: : D0, 7!:= !: =5/6!M-6=1!: ;!#36: M/J!: =5/6!=5-, !

%3110-J!-, ?!P</6/Q!6/4=-0B/4+!13MM: 6=0B/!: ;!: =5/6!M-6=1!: ;!=5/!:: 6. /6!@: B0/=!

A, 0: , !-, ?!#36: M/!-, ?!6/4=-0B/4+!131M0E0: 31!: ;!%3110-8!@: !=5/+!E-, !M: 0, !=!: !

=50, 71!=5/+!60/?J!-, ?!=5/6/!</6/!=50, 71!=5/+!60/?!<0=5!5!/!%3110-, 1J!L3=!&

=50, D!=5!/!%3110-, 1!M0ED/?!3M!: , !1: . /!: ;!=5-!:=: : !-, ?!E: 34?, 9!7/!=!56: 3758!&=!

<-1!-!. : 6/!0?/: 4: 70E-4!-?. 0, 01=6--0: , 8!I , ?!&!50, D!=50, 71!40D/!M3150, 7!:: 6!=5/!

* I 2!P' I RO!* /. L/6150M!! E=0: , !24-, Q!: 6!(/: 670-!-, ?!AD6-0, /!0, !\]]b!<-1!-!

6/-4!0, ?0E=-0: , !: ;!=5018!R501!<-1!, : =!M6-E=0E-4!M: 40=0E18!!

"#\$%&' (#%)^/-5J!&!<- , =/?!:= !7: !=5/6/!, / ^=8!@: !<5-!/?0?!+: 3!=50, D!: ;!=5/!34=0. --/!

E: . M6: . 01/!=5-!E-. /!: 3=!P: ;!=5/! M604!\]]b!' I RO!13. . 0=!0, !" 3E5-6/1=0!

<5/6/!=5/+%/!, : =!f30=/:! : ;/60, 7!* I 2J!L3!=5/+%/!-41: !1-+0, 7!P]X)h]]]Q!

P(/: 670-!-, ?!AD6-0, /Q!k<044!L/!M-6=!: ;!' I ROI!-!1: . /!M: 0, =!0, !=5/!;3=36/T!

\$&HH)!G: 61=!: ;!-44!M: 110L4/!<: 64?18!&=91!-!. /11-7/!P=: !%3110-Q)!-==ED!, : <J!L/E-31/!

1: . /=0. /!0, !=5/!0, ?/=/6. 0, --/!;3=36/J!=5/+%4!5-B/!I 6=0E4/!i J!L3!=5/+!?: , 9!

, : <8²⁹!!

G/!, /B/6!15: 34?!5-B/!7: ==/, !0, =: !=5-!J!L/E-31/!&!S31=1=044!?: , 9!

3, ?/61=-, ?!:= !=501!?-+U-, ?!&9B/!5/-6?M/: M4/!=-4D!-L: 3=!0=U&!?: , 9!

3, ?/61=-, ?!5: <!5/!G50=/\$: 31/!E: 34?!, : =!5-B/!3, ?/61=: : ?!=5/!/?/M=5!: ;!

W6/, E5!-, ?!(/6. -, !: MM: 10=0: , !=: !: ;/60, 7!. /. L/6150M!:= !AD6-0, /!-, ?!

"O+*. /6("Y"49"* ("HO&^"&(+, *E"2*, *(2**' , **, 5", **, /7"45"45("1 (1: (+49"* (" , 66., 5/("8.66": ("*+(, *(("<, 2", 5"



(/: 670-8!I , ?!&!E-, 9!3, ?/61=-, ?J!;061=: ;!-44J!5: <!-5/+!?'0?, 9!D, : <!-5--J!: 6!5: <J!
D, : <0, 7!-5--J!-5/+!1=044!/?/E0?/?!-5--!-5/+!<: 34?!7: !-5/-?J!-5--!0!<-!-!7: : ?!
0?/-J!L/E-31/!+: 3%/!1M40==0, 7!' I RO8!' I RO!5-1!:= !. -D/!-5--!/?/E0!0: , !
3, -, 0. : 314+J!-, ?!1: . /-50, 7!-5--U0=16/f306/?!-!5/44!: ;!-!4: =!. : 6/!1M-?/!<: 6D8!
R5!/M: 44!0, !AD6-0, /!?'0?!, : =!15: <!0=-!-!L/0, 7!B/6+!M: M34-68!@--D-15B040!5-?J!0, !
=5/!;-44!: ;\]]ZJ!E: , ?3E=/?!. -110B/!6/M601-41!-7-0, 1=: MM: 10=0: , !0, !(/: 670-J!1: !
/B/, !L+!' I RO9!<, !1=-, ?-6?1!: ;!/?/. : E6--0N--0: , !0, !=5/!' I RO!P#, 4-67/. /, =!
@=3?+!</??'0!, !XYyi QJ!=5/+!?'0?, 9!;0=-!-, 3. L/6!: ;!-5/!E60=/60-8!G5+!<!/M315/?!
-5/-?U0!<-!!: : 4015J!L/E-31/!0=173-6-, =//?%!3110-, !: MM: 10=0: , J!L3=!0=-!41: !
?0163M=/?!=5/!-440-, E/8!!

I , ?!-5/, !=5/!/;/;: 6!-= !M-M/6!: B/6!<0=5!=501!1=-=/ . /, =UkG/44J!</!<: , 9!
?: !0=!, : <J!L3=!/B/, =3-44+!-5/+!<044!U=56: <, !: 3=-!-!-!1: M!:= !(/: 670-!-, ?!
AD6-0, /!P]X)h\)]]0!01!-41: !-!. /11-7/!:= !%3110-Uk-E=!, : <!<504/!+: 3!E-, 8!1! , ?!
E/6=-0, 4+!0, !(/: 670-J!&!-50, D!-5/+!</6/!0, E40, /?!-, +<-+!:= !?: !=5--8!23=0, !=60/?!-!=!
@: E50J!<50E5!E-. /!-4. : 1=10. . /?'0--/4+!-;=/6!-5/!13. . 0=!0, !" 3E5-6/1=U5/!-60/?!
=: !/\`M4-0, !=: !" 315!<5+!-5/6/!<-!-!M6: L4/. !<0=5!AD6-0, /!-, ?!(/: 670-8!" 3=
23=0, 91!501=: 60E-4!-673. /, =1U0=91!1: . /-50, 7!-5--!S31=!'0?!, : =!6/1: , --/!<0=5!
-, +: , /!0, !=5/!! . /60E-, !?/4/7--0: , 8!k^: 3%/!=-4D0, 7!-L: 3=!%3110-, !501=: 6+J!
0. M/60-4!501=: 6+8!' : J!, : J!-5/1/!-6/!;6//!E: 3, =60/1J!-, ?!</!5-B/!-!1=-=/ . /, =J!
O@>#!0, !XYy]!-, ?!:=5/6!O@>#!?: E3. /, =1!-5--!1=-=/!E-, !. -D/!-5/06!: <, !
1/E360=+!-66-, 7/. /, =18!1! , ?!1: !</!S31=!M315/?!-5/-?!<0=5!-5--8!1 , ?!-5/!
%3110-, !-, 1</6!:= !=5--!01U=5/!:=5/6!O@>#!?: E3. /, !=5--!P%3110-, !W: 6/07, !
* 0, 01=/6!@/67/+0!H-B6: B!4: B/1!:= !f3: =/)!k^: 3!E-, , : =!5-B/!1/E360=+!;: 6!: , /!-!=5/!



!

-1!M-6=: ;!@/6L0-F* : , =/, /76: 8!@: !=5/!%3110-, 1!5-B/!=501!?/-4!0, !=5/!A' J!A' !

@/E360=+!P>: 3, E04QJ!-1!E4: 1/!=: !-, !0, =/6, -=0: , -4!4-<!-1!+: 3!E-, !7/=8!I , ?!1: !



!

G 504/!&!<-1!1=044!0, !* : 4?: B-!=-4D0, 7!:= !5/!* : 4?: B-, 1!-, ?!5/!

1/M-6=-01=1J!&!. -, ;344+!. -0, =-0, /?!5/!/?0M4: . --0E!40, /)kR501!01!, : =!-!M6/E/?/, =8!

R501!01!/?0;;/6/, =8q!" 3=!&!5-B/!:= !1-+J!&9. !4: : D0, 7!-=-!0=-, ?!1-+0, 7J!kR501!01!-!1=/MJ!

=5-=-!0;!+: 3!?: !=501!3, 04-=/6-44+J!<5/6/!+: 3!5-B/!E: . . 0==/?!0, !=5/!A' !@/E360=+!

>: 3, E04!:= !=5/!%3110-, 1!;: 6!-!B/6+!/?0;;/6/, =!1: 43=0: , U0;!+: 3!S31=!07, : 6/!=5-=-!

E: . . 0=. /, =!-, ?!6/E: 7, 0N/J!+: 39B/!/1=-L4015/?!-!M6/E/?/, =!;: 6!5/!%3110-, 18!

R5/+!-6/!7: 0, 7!:= !31/!0=8!|I , ?!<5-=-!+: 3!15: 34?!!?: !01!6/-?!5/!%3110-, !P]X)hb)]]0!

? : E3. /, =!6/E: 7, 0N0, 7!@: 3=5!O11/=0-!-, ?!| LD5-N0-!;6: . !| 3731=!: ;!\]]b8!R5/+!

. 0. 0EJ!=5/+!E: M+!<5-=-!5/!G/1=!<6: =/!-L: 3=!C: 1: B: !0, !W/L63-6+!: ;!\]]b8!&=9!|

B/6+!E4/-68!!

I 7-0, J!501!01!: , /! : !=5: 1/!=50, 71!5-=-!&!50, D!5/!6/134=!:; 6!C: 1: B: !<-1!

1: . /50, 7!5-=-!<-1!M6/: 6?-0, /?8!^: 3%!/7: 0, 7!:= !5-B/!:= !7/!=5/6/!1: . /5: <J!

/B/, =3-44+J!L/E-31/!=5/!@/6L1!-, ?!5/!! 4L-, 0-, 1!<044!, : =!40B/!:= 7/=5/6!0, !=5/!



!&=91!S31=1!: . /-50, 7!=5-=-!E4/-64+!&!E: 34?!1//!: , !=5/!5: 60N: , !=5-=-!L+!=5/!
 <-+!</!/?0?!0=J!=5-=-!</%/!10. M4+!70B0, 7!40E/, 1/!=: !=5/!%3110-, 1!:=: !=L6: 7-=-/!1: . /!
 A' !=, ?!:=5/6!E: . . 0=. /, =1!=5/+9B/!. -?/!-, ?!=5/, !1-+J!+: 3!/?0?!=501!-, ?!1: !
 +: 39B/!15: <, !=5-=-!501!M6/E/?/, !=5: 4?18!I , ?!=5/+!?6/- . /?13M!-!4: !=: ;!4/7-4!
 7: LL4/?+7: : D!:=: !S31=0;+!<5-=-!5/+!/?0?!<0=5! LD5-N0-!-, ?!@: 3=5!O11/=0-J!L3=!0=
 34=0. -=/4+!E: . /!1P]X)d]])]Q U=5/!<-+!</!5-, ?4/?!C: 1: B: !5-?!-!4: !=: !?: !<0=5!
 0=J!3, ;: 6=3, -=/4+8!&!<015!</!E: 34?!5-B/!;: 3, ?!-!L/=6!<-+J!-, ?!-!<-+!: ;!
 5-, 70, 7!: , !4: , 7/6!-, ?!<: 6D0, 7!:=: <-6?1!-!. : 6/!76-?3-401=1: 43=0: , !=5-=-!
 M6: B0?/?!4/11!: MM: 6=3, 0=+!: 6!. : =0B=-0: , !;: 6!. 01E50/!;: , !=5/!M-6=: ;!=5/!
 %3110-, 18!!

"#\$%&' (#%)!! , ?!=5/, !: ;!E: 361/J!0, !\]])bJ!<-6!?: /!L6/-D!: 3=!0, !(/: 670-8!K: !+: 3!

6/. /. L/6!<5/6/!+: 3!</6/!<5/, !=5/!<-6!L6: D/!: 3=T!

\$&HH)!^/-58!&!<-1!=-E50, 7!-=-!5/!' --0: , -4!G-6!>: 44/7/!-=-!5/!0. /8!* +!;: 6. /6!/?/M3=+!
 ;6: . !=5/!. 0110: , !=: !* : 4?: B-J!-!73+!, -. /?!%+-, !(601=U -!"60!<5: !5-?!<: 6D/?!
 ;: 6!. /!;: 6!1/B/6-4!+/-61!0, !* : 4?: B-J!-, ?!5/9?!L//, !. +!/?/M3=+!0, !501!4-1=!M: 1=0, 7!
 0, !. +!. 0110: , 8!\$/!<-1!=5/!/?/M3=+!5/-?!: ;!O@>#!. 0110: , !0, !(/: 670-!<5/, !=5/!
 E: , ;40E=!L6: D/!: 3=8!I , ?!-1!-!. -==/6!: ;!-E=J!5/!<-1!0, !R1D50, B-40!-4: , 7!<0=5!
 1/B/6-4!O@>#!. 0110: , !. / . L/61!<5: !</6/!L/0, 7!15/44/?!L+!=5/!(/: 670-, 18!R501!
 01!5: <!&!D, : <!5-=-!5/!(/: 670-, 1!1=-6=/?!0=8!R5/+!-E-3-44+!1=-6=/?!5/!. -0, !
 M5-1/!: ;!=5/!5: 1=040=0/18!R5/6/!5-?!L//, !1, 0M0, 7!7: 0, 7!: , !;: 6!-L: 3=!-!. : , =58!
 ^: 3!E: 34?!1//!=501!E: , ;40E=!L304?0, 78!I , ?!@--D-15B040!=60/?!J!0, !=5/!. 0?/?4/!: ;!;: , /!
 , 075=J!=60/?!15/440, 7!R1D50, B-40!-, ?!. : B0, 7!6: : M1!0, !=: !=-D/!@: 3=5!O11/=0-U
 : B/6<5/4. !=5/!%3110-, !M/-E/D//M/61!-, ?!=-D/!



4: : D0, 7!-!=5-=-J!-, ?!76-?3-44+!+: 3!E-, !1//!50. !=50, D0, 7!. : 6/!-, ?!. : 6/!=5-=-!
 k%3110-!70B/1!-44!=5/1/!=50, 71J!-, ?!</%/!, : =!7/=0, 7!-, +=50, 7!L-ED!;6: . !=5/!
 G/1=8!!!

&!+: 3!6/-?!=5/!/?/1E60M=0: , !: ;!=5/!4: , 7!1M//E5!=5-=-!5/!7-B/!P=: !26/10?/, =!
 "-6-EDQ!OL-. -!<5/, !=5/+!. /=UOL-. -!</, =!0, !\]]YJ!-, ?!=5/+!. /=:; 6!-!
 L6/-D;-1=J!43, E5J!<5-=-/B/68!R5/+!. /=: , !=5/!6: : ;! : ;!=5/!, /<!%0=N!\$ =/4!=5/6/!0, !
 * : 1E: <8!I , ?!23=0, !</, =!;: 6! : B/6!-, !5: 36!L/;; 6/!-, +!I . /60E-, !E: 34?!7/=-!-!
 <: 6?!0, J!-!40=-, +!: ;!760/B-, E/1!:= !OL-. -8!I , ?!OL-. -9!401=/, 0, 7!:= !=501J!1-+0, 7J!
 kG5-=-!01!=501T!P]X)i]]]Q!23=0, !5-1!=5/!E: , =0, 30=+8!\$/9!1!//, !-44!: ;!=501!7: !-, ?!
 76: <J!-, ?!5/9!76-?3-44+!/?/B/4: M/?!=5/!E: , B0E=0: , !=5-=-!&!50, D!01!?!0;;/6/, =8!\$/!
 E-. /!0, !=50, D0, 7!5/!E: 34?!<: 6D!<0=5!=5/!G/1=J!-, ?!5/9!76-?3-44+!/?/B/4: M/?!-!
 E: , B0E=0: , UqR5/!G/1=!<044!S31=IM6: . 01/!+: 3!-44!1: 6=1!: ;!1=3;;!-, ?!=5/, !/0=5/6!
 , : =!;34;044!=5/. !: 6!?: !=5/6!1=3;;8!II , ?! : , /!: ;!=5/!76/-=-/1!=50, 71!<-1!S31!-=-;/6!
 =5-=-U=5/!\]XX!A' !B: =/!: , !H0L+-!-, ?!=5/, !<5-=-!</!?!?<0=5!PH0L+-, !4/-?/6!
 * 3-. . -60!(-??-;08!I , ?!23=0, U=5-=-9!<5-=-!6/-44+!E: , B0, E/?!50. J!&!L/40/B/J!
 <0=5!-!, 3. L/6!: ;!M/: M4/J!:= !E: . /!L-ED!-, ?!=-D/!=5/!M6/10?/, E+!L-ED!;6: . !
 * /?B/?/B8!I , ?!501!-=-0=3?/!: , !=501U&9B/!5/-6?!=501!;6: . !=5/6!%3110-, 1U01J!
 kR501!01!<5-=-!+: 3!73+1!0, !=5/!G/1=!? : 8!^: 3!=-D/!-!B: =/J!</!70B/!+: 3!-!B: =/!: , !
 1: . /=50, 7!=5-=-9!13MM: 1/?!:= !L/!. : ?/6-=-/J!+: 3!7: !0, !-, ?!<6/ED!/B/6+=50, 7J!
 -, ?!+: 3!S31=!E-, 9!L/!6/40/?!: , 8!II

&!50, D!23=0, !5-1!7: , /!=56: 375!=501J!-, ?!5/!<-1!-=-!1=-7/!: ;!=501J!<5/6/J!
 -=-!* 3, 0E5J!5/!L: =5!?/, : 3, E/?!=5/!G/1=J!L3=!5/!1-0?!(/: 67/!" 315!<-1!501!
 ;60/, ?!-, ?!-!/?/E/, =!. -, 8!\$/9!!, : =!-44!=5/!<-+J!5/9!E-375=!L/=<//, 8!" 3=!P=5/6/!



!

-6/Q!6/. /, ? : 31!6/1/, =. /, =!5-=%3110-!01!S31=L/0, 7!/^ E43?/?J!, : =!40!/, /?!=: J!

01!70B0, 7!E: : M/6--0: , !-, ?!E: , E/110: , !!-, ?!, : =!7/==0, 7!-, +=50, 7!L-ED8!&, !=5/!

G/1=J!5/!" 315!-?. 0, 01=6--0: , U <!/!</6/!1: !: E31/?!: , !: =5/6!=50, 71J!-, ?!=5/, !

<!/!</6/!=5/, !: E31/?!: , !=5/!-L31/1!: ;!=5/!%3110-, !6/70. /8!I , ?!0, ?//?J!

?/. : E6-E+!153=!? : <, !?360, 7!501!P23=0, e!0!1/E: , ?!=/6. 8!I , ?!=50!<-1J!' (O1!

</6/!1=-6=?!=: !PL/Q!6/1=60E=??J!0, ?/M/, ?/, =!M: 40=0E-4!5: 375=J!P%3110-, !

S: 36, -40!2: 40=D: B1D-+-!01!-11-110, --/??J!P;: 6. /6!%3110-, !W@" !: ;;0E/6!

I 4^ -, ?/6Q!H0=B0, /, D: !01!-11-110, --/?8!P]X)i \])]Q!R5/!1/E360=+!1/6B0E/1!-6/!

E: . 0, 7!L-ED8!&!E: 34?1!//!. +1/4;8!R5/!%3110-, !E: . . -, ?/6!=5-!&!31/?!=: !L/!-L4/!

=: !. //!0, !-!E-;/!-, ?!5-B/!E: ;;/!/: 6!L//6!<0=5!-4: , /U=5/!4-1=!0. /!&!1-<!50. !0, !

e]cJ!5/!<-1!E: . . -, ?/6!: ;!%3110-, !M/-E/D//M0, 7!;: 6E/1J!-, ?!=5/!/: , 4+!0. /!<!/

</6/!-L4/!=: !=-4D!0, ?0B0?3-44+!<-1!<-4D0, 7!L/=<//, !L304?0, 71!<5/, !<!/!E: 34?1

7/!-<-+!;6: . !=5/!70-, =!/ , =: 36-7/!/: ;!1/E360=+!73+1!5/!5-?!-6: 3, ?!50. 8!R5/!

1/E360=+!1/6B0E/1J!E0B040-, !-, ?!. 040=-6+J!-44!6/=36, /?!<0=5!-!B/, 7/-, E/!-, ?!-!

=6-?0=0: , -4!. 01=631=: ;!/1M/E0-44+!=5/!G/1!-, ?!/1M/E0-44+!: ;!I . /60E-, 18!!

I , ?!</!E: 34?!M/6E/0B/!=5--J!-, ?!0=!7-B/!13MM: 6!=: !5-6?40, /61J!5: 1/!0, !

=5/!A, 0=?!@=-=/!<5: !</6/!0, E40, /?!=: !L/!. 01=631=:34!: ;!* : 1E: <J!L/E-31/!=5/+!

</6/!. 01=631=:34!: ;!* : 1E: <!0, !=5/!eZ] 1!-, ?!eb] 18!I , ?!1: !<!/!-41: !1=-6=?!=: !

6/B/6!=: <-6?1!-!/?/-34=!M: 10=0: , !=5-!<-1!. : 6/!131M0E0: 31J!4/11!E: : M/6--0B/J!

4/11!E: 44-L: 6--0B/J!-, ?!4/11!3, ?/61=-, ?0, 7!;: ;!%3110-, !?/106/18!!

I , ?!0=91!/M0=: . 0N/?!=5-!*/?B/?/B!. -D/1!=501!M6: M: 1-4!0, !\]]b!=: !

E5-, 7/!=5/!#36: M/-, !1/E360=+!-6E50=/E=36/8!I , ?!=5/!M6: M: 1-4!0=1/4;J!5/!6/-=-+!

=5-!5/+!M6: M: 1/?!01!S31=17: ?F-<;348!" 3=!&!=-4D/?!<0=5!5/!@/E6/=-6+!(/, /6-4J!



* -6E!?! "60E5-. L-3=J!: ;!O@>#J!: =5/61!0, !: 36!?!/4/7--0: , !: 3=!=5/6/!0, !a0/ , , -J!
 <5: !</6/!=50, D0, 7!</!15: 34?!=-D/!-?B-, --7/!: ;!=501!-, ?!=-4D!<0=5!=5/. !-L: 3=!
 1: . /!: ;!=5/!=50, 71!</9?!40D/!=: !?: !-, ?!76-<!5/. !: 3=!: , !<5--!=5/+!<: 34?!40D/!
 -, ?!1//!0;!</!E-, !7/=-!, +=50, 7!: 3=!: ;!=5018!I , ?!=5/!6/1M: , 1/!0, 1=-/?!<-1J!
 P]X)i d)]]Q!L: =5!>: , ?0e1!6/1M: , 1/J!-, ?!=5/, !POL-. -e1!@/E6/=-6+!: ;!@=-=/Q!\$044-6+!
 >40, =: , !4-=/6J!<-1J!kG/44J!</!40D/!=5/!E366/, =!1/E360=+!-6E50=/E=36/8I!* -+L/!</!
 ?!: !40D/!=5/!E366/, =!1/E360=+!-6E50=/E=36/J!L3=!=<5/, !+: 3!4: : D!-!=!0!=5-!=!<-+J!+: 3!
 . : 6/!: 6!4/11!/, 136/J!1: , , /6!6--5/6!=5-, !4-=/6J!5-=-!* : 1E: <!01!7: 0, 7!:= !6+!:= !
 <: 6D!-7-0, 1=!0=8!!

I , ?!=5--91!<5--!=5/+6/!?: 0, 7!, : <8!&=!P<-1Q!. --+L/!, : =!0, /B0=-L4/!;6: . !

=5--!=0. /J!L3=!00. 2[(<)0. 130. 2(!:)-=9!--0. 2(0.)-0. 4(!=50. 5(.)0. TJETQq0. 24000. 240640. 08c



\$&HH)!&E-, 9!=50, D!: ;!-, +=50, 7!6075=!, : <8!@: . /=50, 7!. -+!: EE36!=: !. /J!L3=!&!50, D!



!

-?B-, =-7/!: 6!:= !0. M6: B/!=5/06!M: 40=0E-4!M: 10=0: , !0, 10?/!-!E: 3, =6+8!R5/+!E-, 9!

6/-44+!S31=!E-6/!-L: 3=!;6//!/4/E=0: , 1!: 6!1: . /-50, 7!40D/!=5--8!!!

I , ?!0=9!10, !=50!11/, 1/!=5--!=5/!=<: !150M1!. 011!/-E5!: =5/6!L+!?/;-34=8!I , ?!

1: !=5--!=E=3-44+!7/==0, 7!=5/. !=: !. //!=!, ?!1/. 0F3, ?/61=-, ?!: , /!-, : =5/6!0!:=: !

. +!. 0, ?U=5: 1/!=6/!6/-44+!76/-=!?0M4: . --0E!-E50/B/. /, =18!I , ?!0, !=5--!=1/, 1/J!&

?: , 9!<- , !=: !1/44!" 315J!0, !M-6=0E34-6!=5/!" 315!M/: M4/J!15: 6=J!L3!=5/+!</6/!

6/-44+!4: : D0, 7!0, !=: =5/6!<-+1!=5--!=!&9B/!0, ?0E-=/?J!-, ?!: , /!1: . /5: <!-!=!0. /!

<015/1!</!E: 34?!5-B/!=5: 1/!/075=!+/-61!L-ED!-, ?!<: 6D!: , !=5/. !=-7-0, 8!I , ?!&!

D, : <!-5--!&!<015J!&!50, D!=5/+!<015J!5--!=5/+!E: 34?!?: !-!40==4/!L0=! . : 6/!0, !

I 3731=!: ;!\]]X!0, !=/6. 1!: ;!0, B/1=07--=0, 7!=/66: 601=1!0, !=5/!A@8!" 3!=5/6/!-6/!

. -, +=50, 71!40D/!=5--!=5--!+: 3!S31=!4: : D!-=-!, ?!1-+J!kG: <J!</!3, ?/61=-, ?!0=

L/=6/!, : <!-, ?!5: M/!0=!5/4M1!31!0, !=5/!;3=36/8!!

!

B>?<+GH+I ! <5GJK5<>G+H5L>F!