

h_/=>>?

#/\$"]r(:•) WCO RG BS(U%P< BCSR% BRY/7 cb;< c\$A7(ŽS#L:Z

!''#%&' 0* +,\$-& 0 /01) 23

?^(ktw)MK g:#2 €/#EOr €8"#R8 ?^(kt_),#E1%8 ,#-2 gh#e[4#6 gJQš αš 46783

?^(kt°)MK

/0#-Q L#%& ,#./sz' ' ""D* L#;\$% l'{'S' ,=-N)X€ U =f' _B =D`783*
(#)*' 9':#>) ~./% +8 (Mnk),-]2^2!"\$%& ()*' gJQŠ + !U6'42 ' ""D* /0-- / ?/-ZBU
?KttM I/Q C1) ,Z"2 9/=[GS'8 ,Y-.:2 !" \$%&

oe/#7r ©#Q %A•2 + PvE%#7 Ò•YnD4R :c>) ~./% C-]1G ,mf gr α\$ 46783*
L#;\$% d##N@8 ,#E1%28 ,#•2[" #& !"\$%&' (#)*' :#>) C#) ã#;» y# 9'#{M1&' s#)
,#74E>) •#""8 9'%i#RŠ a/# / [/1#Y]r l{#n /#n# ? ,d†Z BC,, /;-;» `n8 x,-;%&' ' ""D*
r"#) /0#- /# ?4#6 xU/#) !/#Q:) Ý#) ?" 8"#Z g8/#Z {#(8 9/a4%#Y&' Ý#¼ ©#Q
,#-2 gh#e[4#6 gJ#QŠ s##) w r"#& + 9U68 /#p ,#<U /0# | ZB ,p:#e& 9/-Z>#Y&
-^,)""#Y&' ,#E1%2 ,AJ± :, /1@ Z[d)/| % L-;» ©Q /va "Q/YG U40R PD8 ?,-E1%28
b{#a ,#m[:%) (./#Q /#D6'•Q/[- ,#•2 ,#/' 8 ,#Q/E%RS' ,#E1%28 ,#U/5%S' ,#E1%2 P#D8
E/#ã2,)""#Y&' •# ¾/#S* •#†8 ?:#,]Z ©#Q %A•2 gr α\$ •#ea aŠ x/#vq /0#vq
P#D /#A6'UŠ ,#Q/E%RS'8 ,#U/5%S' ,#E1%2 ,#•m2 U6'4# !"#Q/# ,#/' 8 ?•J0#7S'8
?,)""#Y&' ,#E1%2 ,#-7/7r ¾48:•8 ,)Q ' ""Dr

,#-:2 ,#W<2 d#HG gr ,)""#Y&' ,#E1%2 ,##W<2 P#•1a`#r =f' _B =D`7)83*
?!"\$%& ()*' ,)4H1) + ,)""#Y&' ,#E1%2 sQ ,ZB>Y& Ž4%&

€8"R + /0#-Q ~ # /#p ,)""#Y&' ,#E1%2 ,#j ,#S8 \$V<=f' _B =D`783*
•E#Yd/€8*' g4n#p MM Ç6>#& KtK/uw ,#)/@ ,##@Ej' 6':# +8 ?MK g:#2 €/#Qr
?C-]1%2 Ò•YnD4R ,mf +8 ?KttM

/€8*' g4n#p MN Ç6>#& Mi O/iw ,#)/@ ,##@Ej' 6':# pE#(##) U Xv15783*
?MNNM •EYd

?^(MNM)! :eQ ,dJ/«' /A68U sQ ,)""#Y&' ,#E1%2 ,lj :a:G + 9:; =.*

cb;%P< 1 BRÿ/7 a#S" < WQORC

®':#7z' + (0##Ya gr P#•1a ,)""#Y&' ,#E1%2 ,#j €/#Qr (#H1G gr E9Z7 - K
?Kt•MK g:#2 €/#Qr €8"R C#]1G ,< '4) ~)/n:[8 ?^(Ktw) MK g:#2 €/#Qr €8"R C-]1%
x9/a4%&' Ý-¼ ©Q C-]1%2 ^(MNM) Ò•YnD4R ,mf8

.M/i i ,)/@ ,#Ej' 6':= (Mnk)

.(E/2003/29) t (-6 L\$&' ?PQ/E%RS'8 TU/5%S' V<WE<2 ,X:2 L./4Z (MNM)

,AY<Yp /#,/EQr (#H1G (%7 /0%S4[,1W-2 f 40 dRr s) `r \$V7-E9Z7 - M
!68U dE#eG Z%##7 /0#) d#p !"#) g4#|G ;#Ä ,#E@ ,#DR42 9'a C#]1% 9'68U s#)
:Pa /Ep 9'68"2 l/Hn g4|-78 .9/7/-7 !68U8 f':@7'

"8':% !"# 4a)/6/a - da:[r/g/Y-n + ,1W-2 /D";@ f':@7 J2 9'68U (I)
+ b:#k' l"#;% (#-;% /0#- 14#G !68"2 s#) =8*' ,1#Y2 + Y-[/#7r ,#J#8 ZQ4-#7r Z#
C#]1G ,#mf8 MK g:#;2 €/EQr €8"R C-]1G ,< '4) ~)/n:[8 MK g:#;2 €/EQr €8"R C-]1G
`#R'4G y# 9/#;@8 U4#;2 "#» ©#Q `-- {p:G TC2 Ã=42 + ?0•YnD4R :c>) ~./%
x!68"2/D6/-%f' ñ y2 9/Q4; 4& ,Q4EW L@h /E-- C-]1% ,E-Q

,#E-<z' 9'•#-' €U/#% Ž4#Y& Y#-6 %R f':@7S' 9'68U dE#eG (E)
ce86"28 9/#76/E& d#v-r (#7;/G ?g4#E@ %•#-' (0#)8 %•#-' Y) 9'6'4«' %RŠ8
f 6/#)8 (#@% {#p:.) d#) 9'6"2 %@| ,#merr -#Cp8 ?C-]1% •Y-G f :‡[?!U/]%&
x9/p:e2

:ce/7r ©Q BJQr 64pC& (-;:2| f':@7S' 9'68U Ymvg (E)

TC# l/#2 l"#;% V#| @ gr P#1a y2 C-]1% ,2l sQ l/@ Z)*' :ab/;G 'K'
€8"R C#]1G ,# '4) ~)/#:[8 MK g:#;2 €/EQr €8"R C-]1G + Bb': l Š ñ
ce/#7r ©#Q ?0•#YnD4R :#>) ~./#h C#]1G ,#mf8 MK g:#;2 €/EQr
:ab/##;G +8 g""#<2 :ab/##;G + 34###5-' #R8 ©#Q ,#)";& 9/#)4@&
'M' (I) 'M' !:#;]2 + `l :#• U68 /#Ep /#A/-D8 !"#S% (#)' 9/#Y7>)
g4#| a /E-#YI ? ,#Q:]2 L•/#& s#) !U6'4# 9/#)4@& ce/#7r ©#Q8 ?B/#Ur
g# ?-#2 =Š ,#/; z/[8 . ,#Y-:2 9/#Q4E}' :ab/##;G -#Cp8 ?/•#7/1)
J#5]) /; ':@#7' s#E-v% gr P#1a C#]1% ,#l sQ l/#2 Z#)*' :ab/##;G
?9/a4%Y& Y#¼ ©#Q !68"2 l6/%-& 9/Q4; 4& ,Q4EŠ + b:k' l"#;%
€/EQr €8"R C#]1% ,#5% !"#'j' 3:]28 9/a"\$% /var V| @ gr8
xMK g:#;2

,#&/@ ,#-2 L#:)8 /0#dl/1, 8 /0#S':[8 !"#S% ()*' 9S/p8 9/°/Y) 'M'
x,-28"2 ,ab/W%8 ,2& 9/Y7>8'8

g4###| a /E-#YI ?/0%#err8 ,#E-<z' g8U8 ,#E-<z' 9/#Q/E%RS' ~./#h 'O'
x/•7/1)

?Z##E@2 %•##-' 9/°/##Y) /0##- /## ?,-##Y-.:2 9/##Q4E}' 9/°/##Y) 'u'
 (E) Kut'8 (b) K0t g/##:;]2 6/##%Qs' + C##f>G gr ©#Q ?Za4[:%#28
 ,#f4%&' /0%#err s#Q ?Ò•#Yn/D4R :#>) ~./## C##]1G ,mf s# (U)'8
 C#]1G ,#, '4) ~)/#:[8 MK g:#;2 €/EQr €8"R C#]1% L#@% /E-- ~./%2
 ×Ò•Yn/D4R :c>) ~./% C-]1G ,mf8 MK g:#;2 €/EQr €8"R
 (0# !U/## ©#Q f':@#7S' !68U + (## TC# (#;#% "Q/#Ya gr P#•la (U)
 /E-- ,2@ ,e=1) %iRŠ •Y-G8 !6/%-&' 9/04j 4&' ,04E§ C-]1G + ,a28*' 9'a d-'4e2
 ×9S/}' BCD + C-]1% {a{G f :i[-28 ?9/7/-Y2 ,17 €Jf 9/7/-Y2[L#@%
 U4;2 U"É ,e="Q/#Ya ,04E§dv-r

f':@#7S' 9'68" # Ž: #f r 9J #f") ¥" #G α\$, #E-←z' g/ #N-2 !4#OU (E)
×" 8"2 P)4 | «' T•v\$% ®/E%RJ8 ,1W-2 /D"; &y2 9/7/-Y2 9'68U8

,#)4H1) + Ž: #f*' , #E-←z' g8U8 , #E-←z' 9/#Y7>&'8 9/#-' !4#OU (U)
9'68U8 f':@#7S' 9'68" # ,#•v\$% €/#EQ*' + I/O#7z' α\$/O#R6/f8 !"#S%' (#)*
×" 8"2 P)4 | «' T•v\$% ®/E%RJ8 ,1W-2 /D"; &y2 9/7/-Y2

d#EQ %#Ń[9:#4G y# U6'4# ' l'" -%7' ,#n |) [,#)/@ ,#Ej ' "5G7 - u
,#j α\$/O#EQ d#4» ñ y28 ?,-E1% f':-*, -@•m2 U6'4&'8 ,=m2 •-Y% , -1&' ,1W-2
×,1W-2 BCD dEQ (OU + ?,) ""%&' , -E1%

,#Y-:2 9/#Q4E}8 9/a4%#Y&' Ÿ#¼ ©#Q 9/#Y7>&'8 9/#4 | «' G#-7 - i
•#Y-8 Ÿ-W#e8 ,#W-2 d#EQ ~)/#:[(#"2 ~./#2 L#;» ©#f4% ,m#er8 9'6U/# l/#;2
C#]1G ,#mf8 MK g:#2 €/#Qr €8"R C-]1G ,< '4) ~)/n:[8 MK g:#2 €/#Qr €8"R C-]1G
l"#G 9J #f") ,m#er*8 9'6U/#& BC#D ~./#h g4#| G gr P#•1a8 .Ń•Yn/D4R :c>) ~./#h
×/•7/1) g4|a /E•Y1 ,1W-2 α\$

d#v-r (#71;G /#vα ,#W-2 d#EQ ~./#h s#Ev% gr /#vα s#| ;`#r E9Z7 - _
C#]1% ,#<@&' 9'•#-' €U/#8 ?9'6" #2 %#[,m#er8 ?!U/]#Y&' ce86" #28 9/#76/E&
€8"R C#]1G (#"G y# 9/p':#e28 ?/•#7/1) g4#|a /E•Y1 ?,) ""%&' , -E1% 9/-W-G:%7'
:#>) ~./#h C#]1G ,#mf8 MK g:#2 €/#Qr €8"R C-]1G ,< '4) ~)/n:[8 MK g:#2 €/#Qr
×Ń•Yn/D4R

/O#- •:#ea Ž4%#Y&' ,#-6 % {#Rr ,#W-2 9'68U dE#eG gr \$V7-E9Z7 - w
"#=g4#| G y# 9/#Q4; 4&' ,#Q4EW (Â/-28>#Y) d#5% s#C2 %6b4# 4#± 8r %6b4#
žn#R s#) `#R4%8 ,#l=:28 !U/#;2 b{#G ; #Ä 9/#Q/m;2 BC#D (#H1G P#•1a8 ., #e=1&
9/#Q/m;2 dE#eG gr P#•1a8 .9'68" # ~./#h [,#5%' 9'6':#2 ³/# / [L#&# /E-- %6b4#
~)' #28 LdU/#528 9S/#p42 žn#R s#) ,#[/qš ,p6/#e '{#p:) '6'4# Ž4%#Y&' ,#-:2
? ,#28"2 ,#6/W%8 ,#2&' 9/#Y7>&'8 ?!"#S%' (#)* ,#)4H1) + Ž: #f*' 9/#Y7>&'8

(b) Kot

9/#, 4% BC#D dE#eG gr s#| ;8 .9/#Q4j 4& BC#D gh#e[V#}' ð\$ 9/#, 4G ¥"#G ð\$
s#) Kuu !:;]2/# JEQ `[I4;a /E-- PQ/E%RS'8 TU/5%S' V<}' !"Q/Y L@% 9/-, 4G
,)4H1&' \mn ©Q L-Y1% !U/ab + B68U -2² + / ?Ò•YnD4R :c>) ~./% C-]1G ,mf

=>>? @A7 BC#% (T:%/7 8(DRPX +UA%(BRÝ/7 c\$" ŽS#L:Z
!:%]2,)'"%Y&' ,#E1% ,#W2 9'41#Y2 U"#&' d#E@ ~)/#:[U/E%Q' E9Z7 - t
×6':;2 'CD L-) + U68 /Ep MNNO I/@, -2%

∴, -2% 9'6/•%S/['CD dE@ ~)/n:[C-]1G + "•:%/a gr \$VZ-E9Z7 - KN
/##,-8 ' ""#D*8 9/##)'{S'8 9'%;##Rz' C#]1G (#-;8 f':@#7' (#a (1)
€/#EQr €8"R C#]1G ,#, '4) ~)/#:[8 Mj#;2E%Q' 9Z768(WR:))Tj /TT41Tf 59.89840TD0Tc()Tj /TT31T

~ #5-&' dE@ La:- €/EQr `š Ā0% l) 6/°Qs' + CfhG gr ,1W-2 P†·1a (8)
 ,#E:2 9':#>)8 9':#>&' ~./##12 L##Y1&8 d)/#l %' C-]1%2# " #&8 ,#/@ ,#@EW-2 Y[/##
 ×~./%2 BCD ,@/%)8 PQ/ERS'8 TU/5%S' Z2}' + !"\$%&' ()* ' /D";@ y2 , -Y-.:2
 ~)/#:[+ C-]1%2# ,<5%&' !"a"j ' 3:]28 9/a"\$%&' E'6UŠ 6:;G gr ,1W-2 (b)
 ×9'41Y2 U"@&' /0EQ

* * *

9'a 9/#<m%&' %lr s#) ,#W-2 Z#|c ,#t[?T68: #v2 s#) `#r ©#Q ,=57 - KK
 9':#:]2 /E-#7 S8 ?C#]1%2 Ò•#YnD4R ,#mf s#) KK d#5]2 + /0#Q 34#51&' ,#52
 l"#%2 "##, 68 (#;@8 f':@#7' d#Rr s#) €/# ÒJ#š l/#n ,#)/-š ?Ku• 8 Kuw'8 Kui
 ?MK g:#:2 €/EQr €8"R C#]1G ,#, '4) ~)/#:[8 MK g:#:2 €/EQr €8"R C-]1G + b:k'
 "##" » -#Cp8 ?9/#76/E&' d#v-r8 !U/]%'&' ce86"2 •6/e@8 ?C-]1%2 Ò•YnD4R ,mf8
 ×-r² g8U ,</«' U4-;28 9/•;@8 ?C-]1%2 ,l/%' 3:]28 ?!C-#&' 9'%i Rz'

!68"2 /E-7 S8 ?PQ4• ce/7r ©Q , -1•8 :ab/;G ¥" ;G ©Q g" <2 **kl 67** - KM
 U4#;28 9'b/#l z' -#P + /# ?C#]1%2 + P#E@ l"#%2 ©#Q {#p:G ? ,#W-2 f':@#7S'
 ×3:]28 9/a"\$%&'8

Ò•#YnD4R ,#mf s#) KOK 8 KON Z#;:]2 C#]1G f :#2 ~~57~~ **kl 57** - KO
 9':#>) Ý#; 8 ©#Q dE@ g" #2 d# , '4G gr ?u/t ,#W-2 6:#) s#) 0^!:#:]28 C#]1%2
 ce/#7r ©#Q ? ,n#Y1j ' ž#4j ' ~#U -#P + /# ?" #42 Ž4%Y&' ©#Q ,)""%Y&' ,#E1%2
 + :#H12 l/#@ Z#)*' αš ž#ma8 ? ,#1•42 9/#428*8 ©/# 8*' Ý#) ©#E%#/# ?PQ4•
 + BJQR !64#pC&' 9':#>&' gh#e[dE@ □ + :#H12

U/#['* !/0':) Ÿ# ?C#]1% + ce4#E-&' I"#,% ©#Q ÒJ[z' {p:a gr P†•1a (É)
?!U/]#%Y&' ce86"#28 ?9/#)4<@' (#7/;G -#2 + /# ?/0#)/ |G8 ,)"#%Y&' ,#E1%2 ,#J±
?9/#" \$%28 ?9/#4@'8 ?!C#-%' 9'%i##RZ' "h"»8 ?9/#76/E&' d#v-r8 b:#<' I"#,%28
×3:]28

×BJOr KO !:;]2 + 64pC&' 4\$12 ©Q ?€# d|e[9':•>&' I"'-%7' (U)
,#1•42 9/-W-G:%7S' ,#I s#Q 9/#)4@) T:m;2 ÒJ[z' I";a gr P†•1a (D)
×,)""%Y&' ,-E1%2

+ Ž:#f*' 9/#Y7>&' Ÿ# L#A8 g8/#% ?!4#G gr ,#W-2 ,#/)r s#) **hbi7** - Ki
:Pa/ ?!"\$%' ()*' ,)4H1)

:

,#E-<z'8 ,#&/@!'"#e, *' ©#Q C#]1% •#"G Z# Ž4#r ...#f'86 {#(€ (f)

×,a:m;28

×/01-[/E-8 9/EH1&' sEj g8/@%8 -7/E% {a(€ (E)

"#5;[Ž:#fr C-]16 •["G a/Ĥ' α\$ /0-- ,R/«' 4Q"G "=y2 9S/}' "a"» (f)

×l";% ZY»

×C-]1% dRr s) 6U/5& Ÿ-¼ s) U6'4E2 €/@2 l'" -%7S' !U/ab8 , '€ (U)

9/#)4<€ €U/#G -#2 + /# ?9S/#}' Ÿ#¼ + L-#Y1%8 g8/#% !U/#b (D)

~)/#: [8 ?MK g:#,2 g:#,2 U/ab#2^a-##2^{a3} -0.0044 Tc [("a)-6.8("»)]TJ /TT4 1 Tf4n

7 TD 0 Tc ()Tj /TT39

,#mf s#) (U) 8 (E) Kut 8 (b) K0t 9':#;]2 !/0:.) Y# ?!68"# s#) Ž4%Y&' ,#-:2
x-C-]1%2 0•YnD4R

d#E@ 4¹ /0R4G :pr s#U"@&' , \$-5& (E/\$, r Y) 6'4«' 9/-EQ d#R (E)
x-C-]1%2 8

,# \$-5& (E/#\$, r8 , "#&' Y#E%}' s#) €/#2 •':%•S'8 ,p6/#e& {#(€ (E)
€/EQr €8"R C#]1G ,#k, '4) -)/#:[8 ?MK g:#2 €/EQr €8"R C#]1G + sa:ft' Z-1@&
\\#m12 ,@7'42 ,p6/#e&8 ,--/]#e2 {#(€ -#Cp8 ?C-]1%2 0•YnD4R ,mf8 ?MK g:;2
x640Ej ' s)

9/04EWE2 d#E%2 gb'4#2 s#) d#v-r ,R6U L-;» ©Q (E8• "2 dE@ (U)
x,1W2 + , -E-«Z' L•/1& Y-¼ s) , -Y-.:2

Y#¼ ©##Q 9'6"#;2 %a[8 ,p':#e2[,#5%' ,m#en*' + P#e]2 •':%•S' (D)
9/0/E'R' s#) %ANp (#16 y2 ?(€Z {p':)8 9/p':e2 f 6/@) -2^p + / ?9/a4%&'
x,1W2

* * *

{#p:) g4#|G P#p ,#W2 ã#-Q "# 0•#YnD4R d#EQ ,#mf gr α\$ 4567 - MK
/0# , 4[?9/p':#e2 gr 6:#|a8 ,)''%Y&' ,#E1%2 b{#€ y# 9/p':#e2 ghe[Å/;12 L-Y1G
 ,#28"2 ,#)4| «' 9/#)'%S' C#]1G + (0#YG ?s#U"@&' , \$-5& (E/\$, * , -04• 9'6U/•)
 ,#mf8 ?MK g:#2 €/EQr €8"R C#]1G ,#e[/% -)/#:[8 ?MK g:#2 €/EQr €8"R +
x/01Q /; 4Q g4|G gr /' "5;a S8 9/)'%S' BC,, ,E|G P0- ?C-]1%2 0•YnD4R

,#E1%2 P&/##2 ,#E;2 :#>), #EQ 6/#•\$ + 9/p':#e2 gr ©#Q ,=567 - MM
 ,#/I z' Y#) ? ,#2%2 , -0-R4%2 xU/•&8 •a@E2/;-8 C]1G8 he1G gr žq /0%[/%8 ,)''%&'
 ,#E@ €J#f 9/p':#e2 gh#e[/##' Y#mva&' ,#28*' €/EQ*/[?34#5-' 'C#D + ?/E-Q
 ,#)/@ ,#eEj ' 6':#8 ? ,#0-R4%2 " /# xU/#) -2^p + /# ?P&/#2 ,#E;2 :#>& ,#•v\$%
 :MNNK •EYaJ/€8*' g4n/p KK Ç6>&' w_/i _

,# \$-5& (E/#\$, r8 9/#)4| «' /# Y#mva ,##04• 9'6U/#) 9/p':#e2 (I)
x9/Y7>&' s) , \$-5& (E/\$, r8 , -Y-.:2 9/04E}' d±) ?g4-1@&

-)/#:[8 ?MK g:#2 €/EQr €8"R C#]1G + 9/p':#e2 (0#YG gr P#•1a8 (E)
α\$ TU># Sr P#•1a8 ?C#]1%2 0•#YnD4R ,#mf8 MK g:#2 €/EQr €8"R C#]1G ,#k, '4)
x9/=/[GS' -€ + !U6'42 9/)'%S' sQ U6'4&' da4»

9/p':#e2 žn#R s#) ÒJ#z'8 9/#4<@! ¥''#G (#Y% gr P#•1a`#r E9Z7 - MO
:,-2% : , /!@ !/Q':) Y) ?,-="5&8 , -p6/e%28 , -/]e2[,1W2 Ž"2 ,<WY&

ÒJ#š ce/#7r ©#Q 14##;a gr8 /#Q4• 9/p':#e2 d-W#Yg g4#| a gr P#•1a (f)
žn#R s#) ÒJ#z' {#p:a gr P#•1a /Ep .BJOr !U"K' I/| I *' !/Q':) Y) ? ,1W2 ðŠ Ê/%p
? #/a/8 B" , /#;)8 MK g:#;2 €/#EOr €8"R ' ""#Dr C#]1G + /0%/#Y) ©#Q 9/p':#e2
×C-]1%2 Ò•YnD4R ,mf8 MK g:;2 €/#EOr €8"R C-]1G ,< '4) ~)/n:[8

d#p !:#) -2^a g4| a gr dv-*'8 ? ,EH%) :a6/;G 9/p':e2 l" ;G gr P#•1a (E)
×d=*' ©Q Z%7

/0##- /# ?9/p':#e2[,# ,@&' 9/#4<@! ,## /Gš ,#)/@ ,#V)' *' s#) ž#ma (E)
L#:#• s#Q /#va8 ? ,#1@&' ' ':# *' Y#Ej ,# /%) 9/#- [!"0/# €Jf s) -2^a ?/D:a6/;G
×Ž:fr d./788 ,&/@ , |•e2 ©Q ,1W2 Y=4)

s#Q ,#p:) 9/#4<@) s#Ev% {#R4) :#:#G ¥''#G ,#)/@ ,#V)' *' s#) ž#ma (U)
 ,# , /-' ,#°*' ,#I J) Y#) ?/#, /EOr (#H1G8 /0#S/n•2 /#,-8 ,#W2 `-- :H1G Pp 9/p':e2

