!"#\$%&'&(#)*+,-)./0/'&12/345')!"#\$%&'&(#) 6%78"95#"):-;<=>-*<?)@A&"\$A/3\$/")B79A4&8A72)

+>RL.SH"<+UVL.S" \$ % &"L% ' #RVL) %"V. \$.+-+% ./!>2007N3"03"58KK0110; "18"582710A45107<" (355A0K0741087"07"1=03"07310121087"47; "; 0G0:8I07<"4"5:0K410"8F"0; 25410874:"0P201D"1=41"A058<70J03"47; "A03I0513"1=0" OP24:"; 0<701D"47; "98A1="8F"4::"9=8"3006"18"I4A1050I410"07"1=0":0F0H"98A6"47; "K033087"8F"1=0"R70G0A301DE"V25="4" 5:0K410"03"5A0410; "47; "K40714070; "BD"; 0G0:8I07<"4"270G0A301DQ90; 0"58KK01K071"18"47; "27; 0A3147; 07<"8F" 0; 25410874:"0P201DH"32II8A10; "BD"I8:05003H"IA8<A4K3H"52AA052:4H"IA4510503"47; "1A4; 010873"1=41"F450:01410"07; 0G0; 24:3" Q"47; "OP201DQ300607<"<A82I3Q"FA00H"34F0H"47; "F2::"I4A1050I41087E""

. = 0"0731A2518A"982; ;":060"18"456789:0; < 0"1=41"3=0"03"58K07<"FA8K"1=0"I83010874:01D"8F"4"9=010H"503<07; 0AH" = 010A830W24:"F0K4:0H"47; "1=41"3=0"547781"B0<07"18"B0"4B:0"18"0WI0A00750"9=41":0F0"F8A"1=830"901="; 0FF0A071" I83010874:01003"K0<=1"B0":060E""V=0"982:; "07582A4<0"4::"312; 0713"18"1=076"4B821"1=00A"I83010874:01DH"47; "18"A03I051" 1=0"I83010874:01D"8F"0G0AD870"07"1=0"5:433"BD"07582A4<0"7<"; 0FF0A071"8I070873"47; "I0A3I0510G03E""

<u>C&345\$4)D3E&8 2 54A&3</u>)

L731A2518A/) & &AE)X01=" (0::0D"

) FF@50"C82A3/" - 87;4D3"!!Q!Y"47;" * 0;703;4D3"ZQ[H") T+U"\)) - "

 $. = 0" \ 88K": \ 0763" 9 \ 0:: "B0" I 8310; "87" I = 0" \) \ 7 > "C8K0" I 4 < 0"F8A" I = \ 03" 582A30E"""M: 0430" 7810" I = 41" \ 05" D 82" 30 < 7" 87" 47; "01" 34D3" D 82" 4A0" \ 07" I = 0" \ 9 \ 40107 < "A88 KH" I = \ 03"] 231" K0473" I = 41" I = 0A0" \ 03" 4"312; 071" 8A" 312; 0713" 4 = 04; "8F" D 82E"" & 8"781" = 47 < "21" \ 05" D 82" \ 07" I = 0" \ 07" \$

+QK4@:/""<u>60::0DB ^ P200732E54</u>""

!'/5"/)/=25A'))2/)&3'#)A3)53)/2/8(/3\$#F)B'')8/(7'58)/25A''')\$53)G/)9A8/\$4/9)4&)4%/)%/59)6B) H1''#\$*+, I J7//3"7F\$5K)''//)G/'&LF)

 $C890G0AH"D82"4A0"31A87 <: D"07582A4 < 0; "18"58K0"18"KD"8FF050" = 82A3"0F"D82" = 4G0"47D"P20310873"4B821"1 = 0"K410A044:" 8A"1 = 0"582A30E""LF"D82"4A0"275:04A"4B821"47D"8F"1 = 0"B0 < QI0512A0"58750I13H"L"1 = 0"76" < 070A4::D"D82"90:::"B070F01"FA8K" 47"07QI0A387"; 035233087"07"KD"8FF050" = 82A3E""LF"D82"4A0"274B:0"18"41107; "001 = 0A"8F"KD"8FF050" = 82A3"B054230"D82" = 4G0"5:433"; 2A07 < "1 = 03"10K0H" I:0430"307; "K0"47"0QK40::" "#$%!& '()!*+%, -(.,!/) '0!1'.(*!2$$2+%, -"18"411031"18"1 = 03" F451H"47; "L"90:::"5 = 830"4781 = 0A"10K0"1 = 41"D82"4A0"4G40:4B:0"F8A"23"18"K001E""S82"3 = 82:;") % # S"436"F8A"47" 07; 0G0; 24:"K00107 < "_0E0EH"82130; 0"8F"8FF050" = 82A3`"0F"D82" = 4G0"5:433"; 2A07 < "B81 = "8F"KD"8FF050" = 82A3E"" = 82A3E"" = 82A3" 0F"D82" = 4G0"5:433"; 2A07 < "B81 = "8F"KD"8FF050" = 82A3E"" = 82A3E"" = 82A3" 0F"D82" = 4G0"5:433"; 2A07 < "B81 = "8F"KD"8FF050" = 82A3E"" = 82A3E"" = 82A3E" = 82A3" 0F"D82" = 4G0"5:433"; 2A07 < "B81 = "8F"KD"8FF050" = 82A3E"" = 82A3E" = 8$

 $\label{eq:2.1} LF"D82"=4G0"P2031@873"D82"982:;":@60"47390A0;"8G0A"0QK40:"4B821"1=0"CMN6ON6)8F"1=0":0512A03H"I:0430"0QK40:" \\ \underline{I3D5Ya! ^ P200732E54}E"".=@3"0QK40:"90:::"B0"K87018A0;"BD"1=0"=04;". $"F8A"1=0"582A30E""LF"30=0"03"41"4::"2732A0" \\ \underline{4B821"1=0"47390AH"30=0"90:::"I433"1=0"0QK40:"4:87<"18"K0" \\ \end{tabular}$

 $\label{eq:2.1} LF"D82"=4G0"47D"P2031@873"D82"982:;":@60"47390A0;"8G0A"0QK4@:"4B821"1=0"$ **PMQDR6DCR** $)8F"1=0"582A30"_=89"1=0" < A4;03"4A0"54:52:410;H"015E"H"I:0430"4:38"0QK4@:"I3D5Ya! ^ P200732E54E"""M:0430"A04; "8G0A"1=0"A0:0G471"B@13"8F"1=0" 3D::4B23"B0F8A0"0QK4@:@7<"1=0"=04;". $"B054230"30=0"@3"781"8B:@<410;"18"47390A"47D"P2031@873"1=41"582:;"B0" 5:04A:D"47390A0;"BD"A04; @7<"1=0"3D::4B23E"$

!"

LF"D82"=4G0"4558KK8;410873"47;"D82"9471"18"B0"32A0"1=41"D82A"4558KK8;410873"4A0"IA03071H"8A"0F"D82"700;" 454;0K05"58730;0A41087H"D82"3=82:;"B0"0K40:07<".4A4"(4A430905="_1=0";0I4A1K071?3"4558KK8;4108730454;0K05" 58730;0A410873"F450:01418A`"41"<u>I3D5E4558K ^ P200732E54</u>"

)

"

<u>C&78"/)./"\$84144&3</u>)

.=03"582A30"03";030<70;"18"B0"47"0

34 #\$%&'(,).'7&'%++'4)%/'5,3',;3')*)*3*<(%<'+7*).*1*))S&L)\$53)9/0/'&12/345')1"#\$%&'&(#)8/''/58\$%) 18&2&4/)\$%A'98/3X'')L/''=

. A"\$7""A&3)!&"4),0"

65#\$#2.!7 '*\$"97/)Z8495#?)R/14/2G/8),:!"))54),,-+>)12F".=0"I2AI830"8F"1=@3";@35233@87"451@G@1D"@3"18";@FFOA071@410" B019007"1=0"G4A@823"IA8503303"1=41"8552A"; 2A@7<"IA0<7475DH"A058<7@J0"1=0"OFF0513"8F"<0703"47; "07G@A87K071" _@75:2; @7<"52:12A0"47; "=@318A@54:"IOA@8;`"87"IA07414:"; OGO:8IK071H"47; "18"OWI:8A0"=4J4A; 3"8F"IA07414:"

;0G0:8IK071E" g8A"1=03"4510G01DH"D82"90::"B0"<0G07"4"30:051087"8F"0710AG009"P20310873" 821:070; "B0:89`"18"436"47"07; 0G0; 24:"9=8" 03"001=0A"IA0<7471H"8A"9=8"=43"B007"IA0<7471"07"1=0"I431E"L7"D82A"070104:"I831"18"1=0"; 035233087"F8A2K"D82"90::" 32KK440J0"1=0"07F84K41087"D82":04A7"FA8K"1=0"0710AG00900E"L7"D82A"A0I:D"I831"D82"90::"58KI440"47:"5871A431"1=0" A03187303"D82"A050@G0"FA8K"D82A"@710AG@0900"9@1="1=0"A03187303"870"8F"D82A"100A3"A050@G0;"18"0W1:8A0"1=0"

; @FF0A07503"B019007"045="0WI0A@0750E"@&4%)#&78)A3A4A5')539)8/1'#)1&"4")'%&7'9) 2 5T/)/Y1'A\$A4)\$&33/\$4A&3")4&)

4%/)\$&78"/) 2 54/8A5""F)

. 8"5A0410"4"; @G0A30"I88:"8F"I0A3I051@G03H"1=@76"4B821"9=8"D82"K@<=1"9471"18"@710AG@09E"g8A"0W4KI:0H"4" <a47; K81=0aH"709"K81=0aH"4"K8K"9=8"<4G0"B@a1="@7" '474; 4H"4"K8K"9=8"<4G0"B@a1="@7"e4I47H"015E"M:0430"300"

B0:89 "F8A" K8A0" ; 0140:3E"

R3@7<"1=0"@710AG@09"P2031@873"821:@70; "B0:89H"@710AG@09"47"@7; @G@; 24:"9=8"@3"IAO<7471"8A"9=8"=43"B007"

IAO<7471"07"1=0"I431H"18":04A7"4B821"1=00A"0WI0A00750E"

) 750"D82"=4G0"587; 2510; "D824"07; 0G0; 24:"0710AG0093"2307<"1=0"0710AG009"P20310873"821:070; "B0:89H"9A010"4"3=8A1" 32KK4AD"8F"1=0"@710AG@09"18"3=4A0"9@1="D82A"I00A3"@7"1=0";@35233@87"F8A2KE"X0"32A0"18"K460"0WI:@5@1"

58770510873"18"1=0"582A30"K410A04:3"_0E<EH"58730; 0A"=89"D82A"0710AG00900?3"0WI0A00750"K4D"8A"K4D"781"4:0<7"

9@1="9=41"=43"B007"IA030710:"@7"1=0"582A30`E"

S824"1831"3=82:: "B0"41148W@K410:D" [ah0ahh"984;3" K4W@K2K"aah"984;3`E"

65\$,)8#, "!9(,*\$#'5*:!

&0G0:8IK0714:"314<03/"

!E" * =07"; 0; "D82"F0A31"F00: "D82A"B4BD"K8G0k"

YE" * 0A0"1=0A0"1=07<3"07"1=0"82130;0"98A:;"1=41"D82A"B4BD"A04510;"18"07"1=0"98KB" G80503H"015`k"

C4J4A; 3"18"MA07414:"&0G0:8IK071/"

ZE"&@: "D82"4G8@: "47D"F88:30K0: @541@873"015" 9=@:0" IAO<7471k"

[E" * =0A0"; 0; "D82"<01"D82A"07F8AK41087k"

aE" * 0A0"1=0A0"18:; "9@G03"14:031"4B821"1=@7<3"18"4G8@;01460k"

 $\begin{array}{l} \texttt{M:0430"7810"1=41"01"03"0KI8330B:0"07"}) \ \texttt{7} > \texttt{"18"0W107"; \texttt{87:D"38K0"F8:63?"; \texttt{035233087"I8313"F074:"; 04;:\texttt{0703"47}; \texttt{"1=23"4::"} \texttt{8F"D82"K231"F0703="D82A"A0I:D"I831"BD"V27; \texttt{4DH"V0I10KB0A"Ya!""} \end{array}$

=..%<.'>?).&'!', 5'2@0, 3&\$'2A B(DE)V12;0713"9@::"9A@10"198"0334D3H"9=@5="4A0";@352330;"@7"K8A0";014@:"B0:89E"6%/) /""5#)LA4%)4%/)%A(%/8)(859/)LA'')G/)4%/)&3'#)&3/)4&)\$&734)4&L589)4%/)EA35') 2 58TF""S 82"; 8"781"=4G0"18"9A@10" B81=H"B21"D82"4A0"31A87<:D"32<<0310;"18"; 8"38E""\$3"D82"547"300H"1=030"0334D3"4A0";03@<70;"18"07582A4<0"D82"18" A0:410"1=0"K410A@4:H"18"D82"I0A3874::D"8A"18"1=0"98A:;"41":4A<0E""M3'#)A3E&8 2 54A&3)E8& 2)4%/)/""5#)8/59A3("?) 4/Y4G&&T)539)'/\$478/")\$53)G/)7"/9)5")"&78\$/) 2 54/8A5'E"".=0"0334D3"9@::"B0"32BK@110;"18".2A7@1@7"9=@5="9@::"B0" 0KB0;;0;"@718")7>E"

$$\begin{split} Z\&8)G\&4\%/''''5\#''?|<F+ \ \&F+ \ \&F+ \ \&F+ \ \&F+ \ \&F+ \ (\&F+ \)\&F+ \ (\&F+ \)\&F+ \ (\&F+ \)\&F+ \ (AO/3)\#\&78)(AO/3)\#\&78)(AO/3)\#\&71(AO/3)\#\&78)(AO/3)\#\&71(AO/3)\#\&71(AO/3)\#\&71(AO/3)\#\&71(AO/3)\#\&71(AO/3)\#\&71(AO/3)\#\&71(AO/3)\#\&71(AO/3)\#\&71(AO/3)\#\&71(AO/3)\#\&71(AO/3)\#\&71(AO/3)\#\&71(AO/3)\#\&71(AO/3)\#\&71(AO/3)\#\&71(AO/3)\#\&71(AO/3)\#\&71(AO/3)\#\&71(AO/3))(AO/3)\#\&71(AO/3)\#\&71(AO/3))(AO/3)\#\&71(AO/3), AO/20(AO/20(AO/20))(AO/3)\#\&71(AO/20))(AO/3)\#\&71(AO/20))(AO/3)\#\&71(AO/20))(AO/3)\#\&71(AO/20))(AO/3)\#\&71(AO/20))(AO/3)\#\&71(AO/20))(AO/3)\#\&71(AO/20))(AO/3)\#\&71(AO/20))(AO/3)\#\&71(AO/20))(AO/3)&(AO/20))(AO/3)(AO/20))(AO/3)&(AO/20))(AO/3)&(AO/20))(AO/3)&(AO/20))(AO/3)&(AO/20))(AO/3)&(AO/20))(AO/3)&(AO/20))(AO/3)&(AO/20))(AO/3)&(AO/20))(AO/3)&(AO/20))(AO/3)&(AO/20))(AO/3)&(AO/20))(AO/3)&(AO/20))(AO/3)&(AO/20))(AA/3)&(A/3)&$$

)

=**2&!>?!.**7**/)**Z8**A**95**#?)**M\$4&**G**/8**)_!'')**5**4),,-+>)**1**2! .=0"I2AI830"8F"1=03"4330<7K071"03"F8A"D82"18"5A01054::D";035233"1=0"7412A0"47;"72A12A0"07F:207503"87":47<24<0"

n"

V412A; 4D"1=0"s[!]"E"".=0"G431"K4]8A01D"8F"1=0"P20310873"90:::"B0";030<70;"18"1031"41"1=0"587501124:":0G0:H"901="38K0" 4II:0;"47;"38K0"F45124:"P20310873"" LF"D82"4A0"274B:0"18"9A010"1=0"K0;10AK"0W4KH"D82";8"781"700;"18"IA8G0;0"47D";852K07141087H"D82"90::"30KI:D"B0" A0P20A0;"18":01"1=0"=04;".\$"6789"_41"<u>I3D5Ya!^P200732E54</u>"`H"47;"1=07"30=0"90::"IA8G0;0"D82"901="455033"18"9A010" 1=0"K4602I"0W4KE".=0"K4602I"0W4K"90::"B0"8107"07")7>"FA8K"b"4K"87"gA0;4DH")518B0A"Y![%]"2710:"Y"4K"87" V412A;4DH")518B0A"YY^{&§}E" \$<407H"1=830"901="4558KK8;410873"700;"18"B0"32A0"18"4::89"1=0K30:G03"0782<="10K0"43" 1=0"0W4K"455033"90::"5:830"IA8KI1:D"41"Y"4K"87"1=0"V412A;4DE""M:0430":01"<u>I3D5Ya!^P200732E54</u>"6789"BD" - 87;4D")518B0A"!n!""41"7887"0F"D82"90::"B0"9A0107<"1=0"K4602I"K0;10AKE"".=0A0"90::"B0"788II8A12701D"18" A09A010"1=0"K0;10AKH"38"0F"D82";8"781"F00:"IA0I4A0;"F8A"1=0"F0A31"870H"L"982:;"31A87<:D"32<<031"D82"1460"1=0" A04;07<"9006"18"312;D"K8A0"47;"9A010"1=0"30587;"870E""LF"D82"K033"B81="K0;10AK3H"1=0"cA2:03"F8A"433033K0713d" 4II:003Q01";803"781"K4110A"9=01=0A"D82"=4G0"454;0K05"58730;0A410873"F8A"B81="8F"1=0KE")

) F7(&)34'=G%4'>0, 3&\$'2ABD'. =0"K&; 10AK"0W4K"B0"=0:; "8213&; 0"8F"5:433"1&K0"47; "9&::"5873&31"8F"sh"K2:1&1:0" 5=8&50"P2031&873"1=41"D82"9&::"=4G0"qh"K&72103"18"47390AH"27:033"D82"=4G0"0W1A4"1&K0"87"10313"43"47" 4558KK8; 41&87E""L1"9&::"B0"8107"&7")7>"FA8K"b"4K"87"gA&; 4D")518B0A"n!""271&:"Y"4K"87"V412A; 4DH")518B0A"s!"E"" LF"D82"=4G0"0W1A4"1&K0"4558KK8; 41&873H"1:0430"B0"32A0"18"314A1"&1"9&1=0782<="1&K0"18"B0"; 870"BD"Y"4K"87" V412A; 4D"1=0"s!"E"" =0"G431"K4]8A&1D"8F"1=0"P2031&873"9&::"B0"; 03&<70; "18"1031"41"1=0"587501124:":0G0:H"9&1="38K0"

D82"=4G0"454;0K05"58730;0A410873"F8A"B81="8F"1=0KE") S82A"0334D"K231"B0"a"I4<03r";82B:003I450;H"!Y0I1".0K03"%09"U8K47"F871H"!0075="K4A<073E"

- ZE &@35233"=89"D82"982:;"0G4:2410"9=01=0A"D82A"@710AG071@87"I:47"943"3255033F2:E"""
- K45A83D310KEE"" YE R30"D82A"6789:0;<0"8F";0G0:8IK0714:"I3D5=8:8<D"18"BA@OF:D"821:@70"47"@710AG071@87"I:47"1=41"4;;A03303" =89"38K0"8F"1=030"58750A73"582:;"B0"4;;A0330;"8A"K@10<410;E"""
- +334D"MA8K I13"" !E R30"XA87F07BA0770A?3"X08058:8<054:" - 8;0:"18"IA03071"4"5430"58750I124:0J41087"8F"1=0"F4518A3"1=41"K0<=1" 5871A0B210"18"1=0"31A2<<:03"1=41"VDA047"A0F2<00"5=0:;A07"K4D"F450"43"1=0D"4;]231"18"1=00A":0F0"07" ' 474;4E"X0" 32A0"18";035233"870"F4518A"41"045=":0G0:"8F"1=0"K8;0:/"K05A83D310KH"K0383D310KH"0W83D310KH"47;"

47"0334DE" g8a"045="8F"1=0"IA8KI13H"K460"32A0"18"58730;0A"0G0;0750"FA8K"1=0"582A30"K410A04:3"9=07"B20:;07<"D82A" 4A<2K071E"L1"03"A058KK07;0;"1=41"D82"075:2;0"47"071A8;2518AD"I4A4<A4I="1=41"32KK4A0J03"1=0"K407"I2AI830"8F" D82A"0334DH"47;"4"5875:2;07<"I4A4<A4I="1=41"32KK4A0J03"D82A"4A<2K071E"

. =0"I2AI830"8F"1=@3"433@<7K071"@3"18"4II:D"XA87F07BA0770A?3"X@8058:8<@54:"K8;0:"18"27;0A3147;"A@36"47;" IA81051@G0"F4518A3H"47;"18"32II8A1"=04:1=D"5=@:;";0G0:8IK071E"" \$3"90"=4G0":04A70;"38"F4A"@7"1=@3"582A30H"XA87F07BA0770A?3"X@8058:8<@54:" - 8;0:";@3523303"1=0"@KI8A14750"8F"1=0" K47D";@FF0A071":0G0:3"8F"58710W1"1=41"@7F:20750"4"5=@:;E". =@3"K8;0:"4:38"31A03303"1=0"@KI8A14750"8F"B@;@A0510874:" @7F:207503E"g8A"1=@3"433@<7K071"D82"9@:::"5873@;0A"1=0"1=82347;3"8F"VDA@47"5=@:;"A0F2<003"9=8"=4G0"A05071:D" K8G0;"18" ' 474;4E"S82"9@::";8"38"BD"A04;@7<"198"4A1@5:03H"47;"1=07"47390A"1=0"P2031@87"IA8KI13"@7"1=0"F8AK"8F" H7/%+'13, 6&, 3) ('=G%4'>0, 3&\$'JABDE'. =0"F074:"0W4K"90:::"5873031"8F"sh"K2:101:0"5=8050"_98A1="Yh i ``FA8K"1=0" ''\$&39)%5'E)&E)4%/)\$&78''/"87:DE'''. =0"G431"K4]8A01D"8F"1=0"P20310873"90::"B0";030<70;"18"1031"41"1=0"587501124:" :0G0:H"901="38K0"41I:00;"47;"38K0"F45124:"P20310873E'''\$; ;010874::DH"1=0A0"90::"47"0334D"P2031087"98A1="Yh i " 9=05="90::"B0"1A0K4A0:D"87"1=0"30587; "=4:F"8F"1=0"582A30H"4:1=82<="D82"K4D"903="18"230"38K0"07F8AK41087"FA8K" 1=0"F0A31"=4:FE'''. =0"312;0713"90:::=4G0"4"5=8050"8F"1=A00"P20310873H47; "90::"87:D"=4G0"18";8"870"8F"1=0KE'''. =0" 1=A00"0334D"P20310873"90:::"B0"1A8G0;0;"87")7>"BD"1=0"B0<07707<"8F"%8G0KB0AH"38"1=41"312;0713"=4G0"4K1:0"10K0" 18"1=076"4B821"1=0K"4=04; "8F"10K0E'''\$::"1=A00"P20310873"90:::"B0"1A8G0;0;"47;"4:::"1=A00"90::"B0"87"1=0"F074:H"B21" D82"87:D"700; "18"1A014A0"F8A"870"8F"1=0KQ1=0A0"03"78"1A056"=0A0f": =0"0W4K"90:::"B0"Z"=82A3":87<"_27:033"D82"=4G0" 4558KK8;410873"F8A"0W1A4"10K0`"47; "9A01107"; 2A07<"1=0"A0<2:4A"F074:"0W4K"10A08;E'''LF"D82"547781"9A010"1=0"F074:" 0W4K"F8A"47D"A04387H"D82" - RV. "=4G0"454;0K65"58730;0A410873E'''LF"D82"=4G0"454;0K65"58730;0A410873H"D82"90:::" A0500G0"47"0758K1:010"<A4;0H"1=07"9A010"1=0"F074:"0W4K";2A07<"1=0";014A1K071?3"K46021"10A08;"07"04A:D"e4724ADE" LF"D82";8"781=4G0"454;0K65"58730;0A410873H"D82"90:::"A0500G0"4"J0A8"87"1=0"0W4KE''''

<u>c 7'/")E&8)B""/"" 2 /34")</u>)

$\frac{\text{DE}}{4\%} \frac{1}{9} \frac{1}{3} \frac{1}{4} \frac{1}{4$

- \$82"87:D"=4G0"18"; 8"870"8F"1=0"; 035233087"18313H"1=82<="D82"4A0"V.U)%, #\$ "07582A4<0; "18"781"B:89"
 8FF"1=0"F0A31"870QD82"90::"<01"F00; B456"87"01"9=05="90::"=0:I"D82"901="1=0"30587; H"D82"70G0A"6789"9=07"
 D82?A0"<807<"18"B0"3056"07"1=0"F212A0H"47; "9006"Y"03"4"=056"8F"4":81":033"B23D"1=47"9006"s"<070A4::DE"LF"
 D82"K033"B81="8F"1=0KH"D82"K231"=4G0"454; 0K05"58730; 0A410873"F8A"1=0"30587; "870"07"8A; 0A"18"<01"4"
 A0900<=107<E""LF"D82"=4G0"454; 0K05"58730; 0A410873"F8A"1=0"30587; "870"07"8A; 0A"18"<01"4"
 A0900<=10; "18"D82A"0334DH"47; "!h i "A0900<=10; "18"D82A"F074:E""LF"D82"87:D"K033"=4:F"8F"1=0"; 035233087"I831"
 07"1=03"301241087"_D82"; 0; 7?1"; 8"1=0"F0A31"870"47; "D82"K0330; "=4:F"1=0"30587; "870H"D82"90::"B0"4; ;0; "18"
 D82A"0334D"98A1=E""LF"D82"; 8"781"=4G0"454; 0K05"58730; 0A410873"F8A"1=0"30587; "870H"D82"90::"B0"4; ;0; "18"
- .=0A0" 9 0:::"B0"1 9 8"; 4103"F8A"1=0"K0; 10AK"0W4KE") 70" 9 0:::"B0"35=0; 2:0; "F8A"gA0; 4D"8F"1=0" 9 006"B0F8A0" A04; 07<" 9 006H"47; "870"F8A"gA0; 4D"8F"1=0" 9 006"4F10A"A04; 07<" 9 006E"""LF"D82"4A0"3056"8A"81=0A 9 030"274B:0" 18" 9 A010"1=0"K0; 10AK"F8A"1=0"F0A31"8F"1=030"; 4103H"D82" 9 0::"=4G0"18"5=8830"1=0"81=0A"870"18" 9 A010E""LF"D82" 4A0"3056"8A"81=0A 9 030"274B:0"18" 9 A010"; 2A07<"1=0"30587; "; 410H"1=07"D82"K231"=4G0"454; 0K05" 58730; 0A410873"1=A82<="1=0"I8A14:"F8A"1=0"30587; "35=0; 2:0; "8 I1087E""LF"1=03"03"1=0"5430H"1=07" !h i "9 0:::"B0" 4; ;0; "18"D82A"0334D" 9 8A1="47; "!h i "9 0:::"B0"4; ;0; "18"D82A"F074:"0W4K" 9 8A1=E""LF"D82"; 8"781"=4G0" 454; 0K05"58730; 0A410873"F8A"1=0"K4602I"K0; 10AKH"D82" 9 0:::"A0500G0"4"J0A8"87"1=0"K0; 10AKE"
- LF"D82"4A0"3056"F8A"B81="0334D3H"D82"K231"=4G0"454;0K05"58730;0A410873"1=A82<="1=0"I8A14:"F8A"1=0"30587;" 0334DE""LF"1=03"03"1=0"5430H" !h i "9 8A1="9 0:::"B0"4;;0;"18"D82A";035233087"P2031087"47;"!h i "9 0:::"B0"4;;0;"18"D82A"F074:E""LF"D82";8"781"=4G0"454;0K05"58730;0A410873"F8A"1=0"30587;"0334D";04;:070"D82"9 0:::"A0500G0"4" J0A8"87"1=0"0334DE"
- !'/5"/)3&4/)4%54)&3'#)MNO)8/L/A(%4A3()LA'')G/)9&3/F))6%54)A"')AE)#&7) 2 A'''')G&4%)9A''\$7''''A&3)1&''4''?)#&7) 2 7''4) 2 5T/)''78/)4%54)#&7)L8A4/)54)'/5''4)&3/)&E)4%/)/''''5#''?)&3/)&E)4%/) 2 A94/8 2 ''?)539)4%/)EA35'F))DE)#&7) 2 A'''')G&4%) 2 A94/8 2 ''?)#&7) 2 7''4)L8A4/)54)'/5''4)&3/)&E)4%/)9A''\$7'''A&3)J7/''4A&3''?)54)'/5''4)&3/)&E)4%/)
 /''''5#''?)539)4%/)EA35'F))DE)#&7)9&)3&4)L8A4/)/0/8#4%A3()8/ 2 5A3A3(?)4%/3)#&7)LA'')8/\$/A0/)5)&3)4%/)
 ''''5#''?)539)4%/)EA35'F))DE)#&7)9&)3&4)L8A4/)/0/8#4%A3()8/ 2 5A3A3(?)4%/3)#&7)LA'')8/\$/A0/)5)&3)4%/)
 ''''5#''?)539)4%/)EA35'F))DE)#&7)9&)3&4)L8A4/)/0/8#4%A3()8/ 2 5A3A3(?)4%/3)#&7)LA'')8/\$/A0/)5)&3)4%/)
 ''''5#''?)539)4%/)5&59/ 2 A\$)\$&3''A9/854A&3''K?)#&7)LA'')(/4)5)8/L/A(%4A3()E&8)4%/) 2 A94/8 2)G74)5)
 g/8&)&3)4%/)9A''\$7''''A&3)J7/''4A&3''F))] &7) 2 7''4)L8A4/)4%/)EA35')/Y5 2)A3)&89/8)4&)15'''')4%/)\$&78''/F)))
 !''5'')3&4/)4%54)5'')&E)4%/''/)5''''A(3 2/34'')58/)\$&3''A9/8/94&)G/)/''''/34A5'?)5'')4%/#)58/)5'')\$&A4A\$5')A3)

 $;852K07141087"_075:2;07<"7870K0;054:";852K07141087"D82"547"230"18"32II8A1"D82A"A0P2031H"43"90::"43"0730<=1"0718"=89"1=0"g452:1D"8FF050"90::"433033"1=030"A0P20318""$

LF"D82"700; "18"A0P2031"454; 0K05"58730; 0A41087"F8A"1=03"582A30H"D82" 9 0:: "B0"A0P20A0; "18"IA8G0; 0"1=0"F8::8907<" 74K0"47; "0K40:"4; ; A033"18"0732A0"01"A045=03"82A"104K"4558A; 07<: D/"

L731A2518A0 ' 82A30" ' 88A; @7418A"%4K0/" . 4A4" (4A4309 @5=""

L731A2518A0 ' 82A30" ' 88A; @7418A"0K4@:"4; ; A033/"<u>I3D5E4558K ^ P200732E54</u>"

V12;0713"4A0"07582A4<0;"18"32BK@1"A0P20313"43"3887"43"1=0"700;"B058K03"4II4A071"47;"18"5871451".4A4" <u>I3D5E4558K ^ P200732E54</u>"43"3887"43"I833@B:0"8750" ' 873@;0A41@87"=43"B007"G0A@F@0;E"\$7D";0:4D"@7"5871451"K4D" :@K@1"1=0" ' 873@;0A41@87"8I1@873"4G4@:4B:0E""

!'/5"/)E&''&L)71)LA4%)4%/)6585)<u>I3D5E4558K ^ P200732E54</u>)LA4%A3);)95#")&E)8/\$/A0A3()0/8AEA\$54A&3)&E)#&78) C&3"A9/854A&3)8/J7/"4F))

g8A"K8A0"07F8AK41087"87"1=0"\$54;0K05" '8730;0A41087"IA85033H"9=41"03"47;"03"781"47"0W10724107<"50A52K314750H" 47;"18"32BK01"47"\$54;0K05" '8730;0A41087"A0P2031H"

- %\$\$<*:AA#5\$, B)#\$&40#\$4, -(A%25-C''DA2+2-, O#+E'')#\$#5BA28'#-#5BE<.2B#2)#*0E<2)2<%)2*#5B!
- =11I3/009A0107<50710AE275E0;2003:0A0382A5030454;0K05Q0710<A01D"

) FFQ54KI23"312;0713/"I:0430"7810"1=41"D82"547"I4A1050I410"07"87:070"312;003"47;"A0304A5=0A3"9=8"8FF0A"1=030" 312;003"4:38"8FF0A"87:070"4:10A7410G0"4330<7K0713E"

V %54)AE)D)\$53X4) 2 5T/)5)8/"/58\$%)511&A342/34U)

 $\begin{array}{l} \texttt{M:0430"7810/"90"27; 0A3147; "1=41":} \texttt{@F0"=4II073"47; "D82"K4D"B0"274B:0"18"41107; "1=0"3033@87"D82"3@<7"2I"F8A"43"4" \\ \texttt{A032:1"8F"0W107241@7<"5@A52K3147503E"LF"D82"4A0"274B:0"18"41107; "D82A"35=0; 2:0; "3033@87"; 20"18"47"0W107241@7<" \\ \texttt{5@A52K314750H"I:0430"5871451"1=0"A0304A5=0A"; @A051:D"18"A035=0; 2:0"1=0"3033@87"47; 08A"A050@G0"47"c0W5230; "78Q \\ \texttt{3=89d"78141@87E"\$7"c0W5230; "78Q3=89d"@3"<24A47100; "@F"D82"5871451"A0304A5=0A3"Z"8A"K8A0"=82A3"@7"4; G4750"8F" \\ \texttt{D82A"4II8@71K071E"} \end{array}$

 $\begin{array}{l} U0304A5 = "03"47"0KI8A1471"4510G01D"1 = 41"; (A051:D"0KI4513"3500750"47; "385001DH"47; "1 = 41"4:38"0KI4513"4":4A < OA" \\ 3D310K"_0E < EH"10K0"07":4B"3I450"03"G0AD": (K010; "47; "547"B0"5831:D p F8A"0W4KI:0H"B88607 < "4"!"=82A"3033087"07"1 = 0" \\ F - UL"F450:01D"58313"t [hh`E" * 0"1 = 476"D82"07"4; G4750"F8A"0732A07 < "1 = 41"D82"41107; "D82A"35 = 0; 2:0; "30330873H"47; " \\ 1 = 41"D82"F8::89"2I"901 = "1 = 0"A0304A5 = 0A"43"3887"43"I8330B:0"0F"D82"K033"4"3033087"; 20"18"0W10724107 < " \\ 50A52K3147503E"C890G0AH"0F"D82"A045 = "Y"(5, F+(*, -"7803 = 893"07"4"<0G07"30K0310AH"D82"90:::"781"B0"4B:0"18"30<7" \\ 2I"F8A"4; ; 010874:"312; 00304:10A7410G0"4330<7K0713"1 = 41"30K0310AE"S 82"90:::"B0"4218K41054::D"<A4710; "1 = 0"4B0:01D"18" \\ 30<7"2I"F8A"312; 003"18"04A7"A0304A5 = 5A0; 01"1 = 0"F8::8907<"454; 0K05"30K0310AE" \\ \end{array}{}$

V %&)''%&7'9)D)\$&345\$4)E&8)%/'1U)

 $u\%810/"S82A"582A30"@731A2518A"@3"781"@7G8:G0;"@7"1=0"4; K@7@31A41@87"8F"312; @03"47;"4:10A741@G0"433@<7K0713E"LF" D82"=4G0"P2031@873"4B821"312; @03H"I:0430"5871451"1=0"A0304A5=0A3":@310;"87"V) % $E">2031@873"4B821"312; @03H"I:0430"5871451"1=0"A0304A5=0A3":@310;"87"V) % $E">2031@873"4B821"1=0"I88:"_0E<EH" 5A0; @13`"3=82:;"B0"; @A0510; "18"1=0"I4A105@I471"I88:"588A; @7418A"41"<u>I4A105@I471EI88: ^P200732E54</u>E'''$

<u>!R]C)*+,=)C&78''/)M74'A3/</u>)

. = 03"821:070"90:::"4::89"D82"18"600I"1A456"8F"9 = 0A0"90"4A0"07"1 = 0"582A30H"9 = 41"K410A04::"D82"4A0"A03I8730B:0"F8A" = 41"9006H"47; :< 060"D82"1 = 0::04A707 < :82158K03"F8A"045 = E":)

V//T,-) V %54)A"). /0/'&1 2 /345')! "#\$%&'&(#U-)R/14/2G/8)d)

P/583A3()M74\$&2/"))

- L;071@FD"1=0"60D"0:0K0713"8F"1=0"3D::4B23"47;";035A@B0"582A30"I8:@5@03E""
- &035A@B0"38K0"8F"1=0"A043873"F8A"312;D@7<";0G0:8IK0714:"I3D5=8:8<DE""
- &@35233"=@318A@54:"@7F:207503"87"1=0"F@0:;"8F";0G0:8IK0714:"I3D5=8:8<D""
- L;0710FD"1=0"60D"1=0K03"07";0G0:8IK0714:"I3D5=8:8<D""
- +G4:2410"A0304A5="K01=8;3"07"1=03"F00:;"47"IA0;051"9=41"38A13"8F"A0304A5="312;003"982:;"B0"K831" OFF0510G0:D"07G0310<410;"BD"045="K01=8;""

)

....

)

)

)

<u>P/583A3()c/"&78\$/"</u>)

c/J7A8/9-)

- VD::4B23""
- '=4I10A"!"_4::"I4<03

V/(T)*-)O58'#). /0/'&12/345')!8&\$/""/"-)R/14/2G/8),+)

P/583A3()M74 2/")

"

)

"

• &035A@B0"1=0"IA85033"8F"58750I1@87H"47; "@;071@FD"1=0"K4]8A"IA8503303"8552AA@7<";2A@7<"1=0"I0A@8;3"8F"1=0" JD<810H"0KBAD80H"08;3"8F"1=0 o ".=0"G4A0823"5410<8A003"9=05="07F4713"47;"5=0:;A07";0G0;0"1=0"98A:;"0718"

- &035A0B0"X42KA07;?3"F82A"I4A07107<"31D:03"47;"0WI:407"9=D"1=0"421=8A01410G0"I4A07107<"03"B031H"41":0431"07" 1=0" * +LU&"52:12A0E""
- L710AIA01"1=0";0G0:8IK0714:"82158K03"8F"1=0"G4A0823"I4A07107<"31D:03E""
- &@4<A4K"1=0";0G0:8IK071"8F"FA@07;3=@I"47;"5871A431"1=0"F4518A3"5871A@B21@7<"18"FA@07;3=@I"45A833"1=0"

<u>P/583A3()M74\$&2/"</u>))

- &035A@B0"1=0";0G0:8IK071"8F"58735@0750H"IA8385@4:"B0=4G@82AH"47;"471@385@4:"B0=4G@82AH"47;"0WI:4@7"1=0" F4518A3"1=41"@7F:20750"1=0@A";0G0:8IK071E"""
- +G4:2410"1=0"70<41@G0"0FF0513"8F"I00A"A0]051@87"47; "B2::D@7<"87"1=0";0G0:8I@7<"5=@:;E")
- \$33033"1=0"0FF0510G07033"8F"IA8<A4K3";030<70;"18"A0;250"471038504:"B0=4G082AE")

P/583A3()c/"&78%/")

- c /J748/9-)
 - '=4I10A"!["_4::"I4<03"F8A"B81="0;@1@873`"
 - '=4I10A" !Z"IIE"abbQash"_a!""0;E`"8A" [nYQ[ns"_b!""0;E`"

V//T, *-)Q/39/8). /0/'&1 2/34-). /\$/2G/8),)

P/583A3()M74 (2 /"))

- &0F@70"1=0"10AK3"j30W?"G0A323"j<07;0A?")
- '8KI4A0"47; "5871A431"1=0"K4]8A"1=08A@03"87"<07; 0A"; 0G0:8IK071E""
- \$350A14@7"1=0"B@8:8<@54:"47;"385@4:"@7F:207503"87"<07;0A";0G0:8IK071E")

•

)