!

W U
Sc Ed ca G ad a L

Acad c l P c

"!

!

!

7)1A',%&(K32!1//3**!'%!%&!%E*'&A/'(%)!%+!()'3..3/'A1.!-&%-3&'0!P!G,3+'!%+!/%A&*3!41'3&(1.*!+&%41)!
()*'&A/'%&!%&!',3+'!%+!1)%',3&!*'A23)'9*!@%&D!@%A.2!/%)*'('A'3!A)1A',%&(K32!1//3**›!!=)'3)'(%)1..0!
23)0():!1//3**!'%!&3*%A&/3!41'3&(1.*!%&!&3+3&3)/32!41'3&(1.*!'%!()'3&+3&3!@(',!',3!1/1234(/!-&%:&3**!%+!
%',3&*!@%A.2!/%)*'('A'3!%E*'&A/'(%)!%+!()'3..3/'A1.!-&%-3&'0›!
!
R1/(.('1'(%)!%+!1/1234(/!2(*,%)3*'0!!P!!<..%@():!1)%',3&!*'A23)'!'%!A*3!%)39*!@%&D!@(',%A'!',3!
1A',%&(K1'(%)!%+!',3!()*'&A/'%&›!!$&%8(2():!()+%&41'(%)!&3:1&2():!3M14*!%&!1**(*'():!1!*'A23)'!()!
%E'1()():!A)1A',%&(K32!41'3&(1.*!(*!1.*%!/%)*(23&32!+1E&(/1'(%)›!
!
$.1:(1&(*4!P!G,3!*AE4(**(%)!%+!@%&D!@(',%A'!',3!-&%-3&!A*3!%+!/('1'(%)!%&!IA%'1'(%)!41&D*›!!G,3!A*3!%+!
',3!@%&2*!%&!(231*!+&%4!%',3&*!-&3*3)'32!1*!%)39*!%@)!+%&!1!-%&'(%)!%&!1..!%+!%)39*!@%&D›!!G,(*!()/.A23*F!
EA'!(*!)%'!.(4('32!'%F!41'3&(1.!+&%4!E%%D*F!T%A&)1.*F!',3!()'3&)3'!%&!%',3!*'A23)'*!%&!()2(8(2A1.*›

S!

!

!

- \A%'():!2(&3/'.0!%&!-1&1-,&1*():F!'%!1!4%23&1'3!3M'3)'F!@(',%A'!1/D)%@.32:():!',3!*%A&/3>!
- 5AE4(''():!',3!*143!@%&D!%&!41T%&!-%&'(%)*!',3&3%+!'%!*1'(*+0!',3!&3IA(&343)'*!%+!4%&3!',1)!%)3!/%A&*3!@(',%A'!-3&4(**(%)!+&%4!',3!()*'&A/'%&>!
- 7*():!21'1!%&!()'3&-&3'1'(83!41'3&(1.!+%&!1!.1E%&1'%&0!&3-%&'!@(',%A'!1/D)%@.32:():!',3

[!

!

!

'A23)'9!'&1)*/&(-'!A)'(.!',3&3!(*!1/'(%)!E0!',3!*'A23)'!'%!,183!('!*A//3**+A..0!&34%832>!!=)!/3&'1()!
()*'1)/3*F!*'A23)'*!4 10!E3!-.1/32!%)!$3&41)3)'!</1234(/!5A*-3)*(%)>!!

S L O !P!G,3*3!%++3)*3*!&3-&3*3)'!',3!4%*'!*3&(%A*!E&31/,3*!%+!()'3..3/'A1.!,%)3*'0>!!
HM14-.3*!%+!*3&(%A*!.383.!%++3)*3*!()/.A23?!!

- <..!1/1234(/!()'3:&('0!()+&1/'(%)*!/%44(''32!1+'3&!1!-&38(%A*!432(A4!%&!,(:,!.383.!1/1234(/!()'3:&('0!8(%.1'(%)>!
- =)+&1/'(%)*!%+!1/1234(/!()'3:&('0!&3*34E.():!/&(4)1.!1/'(8('0!#*A/,!1*!+%&:():!1!:&123!+%&4F!*'31.():!1)!3M14()1'(%)!+&%4!1!-&%+3**%&!%&!+&%4!1!A)(83&*('0!%++(/3W!EA0():!1)!3M14()1'(%)W!%&!+1.*(+0():!1!'&1)*/&(-'Q>!#</'(%)*!',1'!410!E3!/%)*'&A32!1*!/&(4)1.!1/'(8('0!@(..!E3!,1)2.32!E0!',31--&%-&(1'3!.3:1.!1A',%&('0!1*!2(&3/'32!E0!',3!7)(83&*('09*!-&%'

^!

!

!

!

R%&!' , 3!Y%/ '%&1.!V383.! - &% : &1 4 *F!' , 3!RA..!G(4 3!R1/A.'0! 4 3 4 E3&!@(..!&3 - .1/3!' , 3!$&% : &1 4 !O%%&2( ) 1 '%&!( ) !
' , 3! - &%/32A&3*!%A'.( ) 32!E3.%@>!
!
C , 3) !1) !( ) *'&A/ '%&!(*! 4 123!1@1&3!%+!1!8(%.1'(%) !%+!' , 3!</123 4 (/!=) '3 : &('0!$%.(/0!1'!' , 3!V%@!V383.F!' , 3!
( ) *'&A/ '%&F!A) 23&!' , 3!2(&3/ '(%) !%+!' , 3!$&% : &1 4 !O%%&2( ) 1 '%&F!@(..!/% 4 - .3'3!1) !</123 4 (/!=) '3 : &('0!
N(%.1'(%) !O , 1& : 3!R%& 4 F!/% 4 4 A) (/1'3!@(' , !' , 3!*'A23) '!1) 2!( ) /.A23!' , 3(&!+332E1/D!%) !' , 3!+%& 4 >!!G , 3!
+%& 4 !1) 2!*A - - %&'( ) : !2%/A 4 3) '1'(%) !@(..!E3!*AE 4 ('' 32!'%!' , 3!$&% : &1 4 !O%%&2( ) 1 '%&!+%&!&38(3@>!!G , 3!
$&% : &1 4 !O%%&2( ) 1 '%&!1) 2!=) *'&A/ '%&!@(..!23'3& 4 ( ) 3!' , 3!*1) / '(%) >!!G , 3!*1) / '(%) !@(..!E3!/% 4 4 A) (/1'32!'%!
' , 3!*'A23) '!E0!' , 3!( ) *'&A/ '%&>!Y%/A 4 3) '1'(%) !%+!' , 3!( ) +&1/ '(%) !@(..!E3!D3 - '!%) !+(.3!@(' , !' , 3!Y3 - 1&' 4 3) '!
0 , 1(& - 3&*%) ; Y(&3/ '%&!' , &%A : , ! : &12A1'(%) >!!Z) 3!031&!1+'3&!' , 3!*'A23) '! : &12A1'3*F!1..!2%/A 4 3) '1'(%) F!
- 1 - 3&; 3.3/ '&%) (/F!%+!.%@!.383.!%++3) *3*!@(..!E3!23*'&%032>!!
!
C , 3) !1) !( ) *'&A/ '%&!(*! 4 123!1@1&3!%+!1!8(%.1'(%) !%+!' , 3!</123 4 (/!=) '3 : &('0!$%.(/0!1'!' , 3! J 32(A 4 !V383.

c!

!

!

)%'!*1'(*+(32!@(',!',3!&3*A.'!%+!',1'!23'3&4()1'(%)F!',3!*'A23)'!410!',3)!*AE4('!',3!/%4-.1()'!'%!',3!
1--&%-&(1'3!N(/3!$&3*(23)'!%&!$&%8%*'›!!G,3!23'3&4()1'(%)!%+!',3!N(/3!$&3*(23)'!%&!$&%8%*'!(*!+()1.›!
!
5'A23)'*!410!/%)'()A3!'%!-1&'(/(-1'3!()!',3!/%A&*3!A)'(.!',3!/1*3!,1*!E33)!&3*%.832›!!=+!1!*'A23)'!
/,%%*3*!'%!@(',2&1@!+&%4!',3!/%A&*3F!',3!-&%/3**!@(..!/%)'()A3!',&%A:,!'%!&3*%.A'(%)!@(',!',3!
&3/%443)232!2%/A43)'1'(%)!()/.A232!()!',3!*'A23)'!&3/%&2›!!<!:&123!%+!=!#()/%4-.3'3Q!*,%A.2!E3!
1**(:)32!-3)2():!&3*%.A'(%)›!!<..!()+%&41'(%)!1)2!(23)'('(3*!%+!()8%.832!-1&'(3*!1&3!/%)+(23)'(1.›!
!
<24()(*'3&():!',(*!-%.(/0!(*!',3!&3*-%)*(E(.('0!%+!383&0%)3!()!',3!C(.D3*!5/,%%.!%+!H2A/1'(%)!/%44A)('0›!!
5'A23)'*F!()*'&A/'%&*F!-&%:&14!/%%&2()1'%&*F!23-1&'43)'!/,1(&-3&*%)*!1)2!',3!Y31)!1..!,183!1)!
()83*'43)'!()!-&%8(2():!1)!3)8(&%)43)'!',1'!-&%4%'3*!*/,%.1&*,(-F!,%)3*'0!1)2!()'3:&('0›!!G,(*!
&3*-%)*(E(.('0!(*!'1D3)!*3&(%A*.0!1)2!',(*!-%.(/0!@(..!E3!3)+%&/32!A)(+%&4.0›!!!!!!

!
!
!