
!! ! ! ! ! !

!
S">B8+A!TP#A!UV8N+(#+?

K8%H+#; I ?!48; #+BA8\$B!M8N:"B8=I BB; =]H8%H*")"&*&#!
a\$>8+H+#>(#B8!D>):%+!ZI "G!@#Q8F"8G>!H8%H#>":%+' ()"&*&#!
48; #+BA8\$B!9I #"+!4+*!b%I #\$\$8: !V8>>8A#!H8%H&I #"+' ()"&*&#!

!

!

9%(+:87; #&8: !G8#+\$ "\$H!A#\$#H8A8\$B!?:B8A: !UCS7MM"GG!:8+)8!#: !BI 8!A#" \$!#)8\$ (8!F!&%AA (\$"&#B"%\$!
U! BB; =]]&% (+:8; ; #&8: * ()"&*&#W!ZG8#: 8!A%"B%+!BI 8!; #H8!%#!#!+8H (G#+!N#: ": !F%+!&% (+:8!#\$\$ (\$&8A8\$B: *!LF!
?%(!#+8!I #)"\$H!>"FF"&(G8?!G%HH"\$H! "\$!%+!; #: :M%+>!; +%NG8A: <!&%\$B#&B!BI 8!9%A; (B8+!c8G; !48: Q!TA#"G!
I 8G; >8: Q' ()"&*&#<458G=, -. /0, 1/0_30!

!

D! I "HI ! G8)8G! %F! :B(>8\$B! &%%; 8+#B"%\$! #>!; #+B"&"; #B"%\$< "\$)%G)"\$H! #: Q"\$H! #>! #\$: M8+"\$H! R(8:B"%\$!: " :!
8P; 8&B8>*!7B (>8\$B: !#+8!8P; 8&B8>!B%!#BB8\$>!#GG!G8&B(+8: <B#Q8!\$%B8: !#>!N8!; (\$&B (#G!F%+!&G#: : *!!

!

98GG!; I %\$8: !#>!; %B#NG8!A (: "&!; G#?8+: !A (: !N8! !> (+ "\$H!G8&B (+8: !#>!G#N: *!

!

5%; "&! I #>%(B: !N#: 8>!%\$!G8&B (+8!; +8: 8\$B#B"%\$!: !M"GG!N8!; +%)">8>!N8F%+8!BI 8!N8H"\$ "\$H!%F!&G#: : !A88B"\$H: !
%\$!9% (+: 87; #&8: *!5I 8: 8!I #>%(B: !M"GG!N8!+8A%)8>! !#FB8+!BI 8!; %: B"\$H!>#B8*!7B (>8\$B: !#+8!+8: ; %\$: "NG8!
F%+!>%M\$G%#>"\$H]: #)"\$H!#>!&%A; G8B"\$H!\$%B8: !; #&Q#H8: *!- #%! /#+ (00#&)%# + &*, "(&12#+&3, #&""&)4, +,) *0#! #
4, *5&)6! / *0#! " ! + #&#, 11! 7#0*/6,) *2#! *#! " ! + #*5, #)0**/8*! ""!

!

*!V#"G(+8!B%!&%A; G8B8!# \$?!8)#G(#B"%\$!

&%A; %\$8\$B!M"BI % (B!; 8+A": : "%\$!F+%A!BI 8!"\$: B+ (&B%+<!M"GG!+8: (G! "\$!# \$!d

@8!)#6(8!7%(+f88>N#&Q!%\$!B! ".!&% (+: 8*!5%M#+>: !B! 8!8\$>!%F!B8+A<#: !"\$!#GG!%B! 8+!&% (+: 8: !#B!ae"&<!7%(!M"GG!
l #)8!B! 8!%; ; %+B("\$B?!B%!&%A; G8B8!#\$!#\$%\$?A%(:! (+)8?!+8H#+>"\$H!7%(+!G8#+\$"H!8P; 8+"8\$&8!U9T7W!5! 8!
: (+)8?!:"!) "B#G!B%!; +%)">"\$H!f88>N#&Q!B%!A8!+8H#+>"\$H!B! 8!&% (+: 8!#\$>!A?!B8#&I "\$H<#: !M8GG!#: !B%!I 8G; !B! 8!
>8; #+BA8\$B!"A; +%)8!B! 8!%)8+#GG!; +%H+#A!F%+!; B(>8\$B:!"\$!B! 8!F(B(+8*!5! 8!: (+)8?!:"!#&&8: : 8>!) "#!S?Z#H8!
#\$>!&#\$!N8!>%\$8!%\$!7%(+!G#; B%; <B#N68B<!%+!A%N"G8!>8)"&8*!L!M"GG!+8A"\$>!7%(!#\$>!; +%)">8!7%(!M"BI !A%+8!
>8B#"G8>!"\$F%+A#B"%\$!\$8#+8+!B! 8!B"A8!N(B!; G8#: 8!N8!B! "\$Q"\$H!#N%(B!B! ".!A; %+B#\$B!#&B)"B?!> (+"\$H!B! 8!
&%(+: 8*!

Week	Dates	Lab	Due
1	Jan 7 th		

5I 8!F%GGM"\$HI8>(&#B"%\$#G!B8&I \$%G%H"8:<MI "&I !:B%+8: !%+!#&&8::8:!?% (+; 8+: %\$#G!"\$F%+A#B"%\$!%(B:">8!
9# \$#>#<":!+8R (">8>!F%+BI ":!&% (+: 8=k !/! BB; :=]; +% #+&H":*&%A]8\$]; +%/#; ;]<

! BB; :=]MMM*#+&H":*&%A]I%A8]"\$>8P* I BA G! !M"GG!A#Q8!?(!#M#+8!"FBI ":!G":BI&I # \$H8: *!!
(:8!BI 8:8!B8&I \$%G%H"8: !B%!8\$! # \$&8!?(+!8> (&#B"%\$#G!8P; 8+"8\$&8!#B!ae"&!5I 8!; 8+: %\$#G!"\$F%+A#B"%\$!":!
+8R (">8>!N?BI 8!:8+)"&8*!5I 8!; +)"#&?!; %G"&?!# \$>BI 8!B8+A: !%F! (:8!#+8!#)#"G#N8!#B!k!
I BB; :=]MMM*8:+"*&%A]8\$/(:; +)"#&?[%)8+)"8M! !*!!8\$&% (+#H8!?(!B%+8#>BI 8:8!>%&(A8\$B: *!!

!
V%+!BI 8! (:8!%F!D+&KL7!Z+%!#\$>ID+&KL7!j \$G"\$8<M8!H8\$8+#B8!#! (:8+\$#A8!BI #B!M"GG!N8!#\$!#G"#: !Y!N(B! "\$!%+>8+!
B%!H8\$8+#B8!#\$>!A#\$#H8!?(+!; #: :M%+>!?(+!8A#"G!#>>+8: :!":!+8R (">8>*!!

!
LF!?(!#+8!\$%BI&%AF%+B#N8!M"BI !?(+!; 8+: %\$#G!"\$F%+A#B"%\$!N8"\$HI: B%+8>!%(B:">8!F!9# \$#>#<; G8#: 8!: ; 8#Q!
B%!A8!M"BI "\$BI 8!F"+:BI M88Q!%F!&G#: :!#N%(B! (: "\$HI# \$!#G8+\$#B")8!U: (&I !#: !(: "\$HI# \$!#G"#: !%+!\$" &Q\$#A8W!!

!
j BI 8+M": 8<N?!&%\$B"\$ ("HI!"\$BI ":!&% (+: 8<?%(!#H+88!B%BI 8! (:8!%F!BI 8!8> (&#B"%\$#G!B8&I \$%G%H?!"\$BI 8!&% (+: 8!
#\$>BI 8!:B%+#H8!%F!; 8+: %\$#G!"\$F%+A#B"%\$!%(B:">8!F!9# \$#>#<*

!