



# MDIA5004

A YX]U'UbX'Di V`]WF Y`Uh]cbg

HYfa `Hk c` `#`&\$&\$



7 ci fgY`Cj Yfj JYk

GHJZZ7cbHJW`8YHU]`g

7cbj Ybcfg

B Ua Y	9a U]`	5j U]`UV]`]m	@cWJhcb	D\cbY
A J\UY`?Ybh	n' ) &(\$- ) 4 i bgk "YXi "Ui	C Z]W` \ci fg`k ]`VY gYhk ]h` ghi XYbtg"	B 5	B 5

G\Xcc``7cbHJW`bZcfa Uh]cb

G\Xcc``cZH`Y`5frg`UbX`A`YX]U

F cca `` %&ž@Yj Y`` žF cVYfhK YVghYf`6i ]X]b[ `fj %(` Ł

D\cbY.`f\$&Ł-` , ) `( , ) \*

9a U]: [gUa 4 i bgk "YXi "Ui](#)

K YVg]hY: [k.k.k "Ufng"i bgk "YXi "Ui #gUa](#)

H\Y`G\Xcc``cZH`Y`5frg`UbX`A`YX]U`k ci `X``\_Y`hc`F`YgdYWZ` ``mi5W`bck`YX[`Y`h`Y`HfUX]h]cbU``7 i ghcX]Ubgž  
h`Y`6YXY[`U``fP`Ybg]b[`hcb`WJa`di`gŁž;`UX][`U``f7`]mUbX`5fiv`8Yg][`b`7`Ua`di`gYgŁ`UbX`h`Y`B`[`i`bbUk`U`  
dYcd`Y`f5i`ghfU]Ub`8YZYbVW`:`cfW`5WUXYa`m]b`7`UbVYffUŁ`cZH`Y`UbXg`k`YFY`YUWX`WJa`di`g`cZI`BGK`]g`  
`cWJhYX"

7ci fgY'8YHJ]`g

7fYX]hDc]bHg`\*`

Gi a a UfmicZhY'7ci fgY

H\]g`Wci fgY`]bfcXi W`g`gh XYbHg`hc`di V`]WfY`Uh]cbg`k f]h]b[ `UbX`a UbU[ Ya YbhUbX`XYj Y`cdg`hY]f  
i bXYfgHUbX]b[ `cZdi V`]WfY`Uh]cbg`]b`hY`5i ghfU`]Ub`a YX]U`Ybj ]fcb a Ybh`Gh XYbHg`k ]`YUfb`hY`VUg]Wg`cZ  
k f]h]b[ `U`a YX]U`fY`YUgYz`a UbU[ ]b[ `U`dfYgg`WcbZYfbW`UbX`XYU`]b[ `k ]h`a YX]U`Ybei ]f]Yg`H\Y`k f]h]b[  
Wc`a dcbYbhicZhY`Wci fgY`k ]`]bWi XY`k f]h]b[ `Zcf`hY`]bhYfbYh`gdYYWXYg`z`di V`]W]h]cbg`z`Wla dU][ bg`z`fYdc`fHg  
UbX`W]g]g`Wc`a a i b]W]h]cbg`"5g`k Y`Ug`YUfb]b[ `hc`k f]h]U`Wfcgg`U`fUb[ Y`cZ[ YbfYg`z`gh XYbHg`k ]`YUfb`hc  
k f]h]Zcf`U`gY`YWYX`Ui X]YbW`"H\]g`Wci fgY`k ]`U`gc`Wc] Yf`hY`k Umg`h`Uhbyk`a YX]U`hY`Wbc`c[ ]Yg  
]bZi YbW`a YX]U`UbX`di V`]WfY`Uh]cbg`"Gh XYbHg`k ]`VY`hUi [ \h`hY`Wb]ei Yg`Zcf`i g]b[ `hY`gY`hY`Wbc`c[ ]Yg`Zcf  
a YX]U`UbX`di V`]WfY`Uh]cbg`di fdcgYg`"Gh XYbHg`k ]`U`gc`YUfb`hY`dfcZYgg]cbU`Wcbj Ybh]cbg`UbX`Yb[ U[ Y  
k ]h`hY`Yh]W`UbX`Y[ U`]ggi Yg`UggcW]U`hY`X`k ]h`di V`]WfY`Uh]cbg`"

7ci fgY`@YUfb]b[ `Ci hWc`a Yg

%`K f]h]U`dfYgg`fY`YUgY`UbX`U`Y`hY`f`hc`hY`YX]hc`#`d]b]cb`d]YW`  
&`C f[ Ub]gY`U`a YX]U`WcbZYfbW`  
'`"8Yj Y`cd`UbX`]a d`Ya YbhU`a YX]U`fY`Uh]cbg`Wla dU][ b`k`cf\_]b[ `]b`U`[ fci`d  
(`"K f]h]`a YX]U`a U`hY]U`g`Zcf`U`a YX]U`fY`Uh]cbg`Wla dU][ b  
)`"8Ya cbghfU`h`Ub`i bXYfgHUbX]b[ `cZ`h`Y`cfYh]W`Z`Ua Yk`cf`g`fY`Yj Ubh`hc`a YX]U`UbX`di V`]WfY`Uh]cbg`"

HYUWX]b[ `GhfU`h[ ]Yg`

H\]g`Wci fgY`k ]`VY`hUi [ \h`ZUW`hc`ZUW`]b`U`Y`W`h`fY`h`Y`U`fY`Y`bj ]fcb a YbhVi h`h`Y`fY`k ]`VY`U`g`h`f`cb[  
Ya d`U`g]g`cb`YbWci fU[ ]b[ `gh XYbh`d`U`f]h]W]d`U]cb`]b`hY`dfcW`gg`cZ`YUfb]b[ "Gh XYbHg`k ]`VY`U`W]j Y`m  
Yb[ U[ YX`]b`gc`j ]b[ `dfcV`Ya`g`dcgYX`Vm`h`Y`Y`W`h`fY`"Gh XYbh`YUfb]b[ `k ]`VY`Yb`UbW`X`Vm`h`Y`i`gY`cZ`WU`gY  
gh X]Yg`UbX`Vm[ fci`d`k`cf\_]b`k`W`gh XYbHg`k ]`VY`U`g`YX`hc`dfcXi W`a YX]U`UbX`di V`]WfY`Uh]cbg`  
a U`hY]U`g`UbX`Wla dU][ bg`Zcf`U`fY`U`W]Ybh`"

H\Y`WcbhYbhicZh]g`Wci fgY`UbX`]hg`hYUWX]b[ `UddfcUWX`]g`XYg][ bYX`hc`YbUV`Y`gh XYbHg`hc`XYj Y`cd`d`U`f]h]W`U`f  
Wc`a a i b]W]h]cbg`g\_]`g`h`Uhk ]`Yb`UbW`h`Y`f`dfU`W]W`UbX`k`cf\_]b`h`Y`Z]Y`X`cZa YX]U`UbX`di V`]WfY`Uh]cbg`"  
h`fY`ZY`W`g`a`m`dcg]h]cb`h`Uh`h`Y`f`dfU`W]W`k`]h]b`h`Y`Z]Y`X`k ]`fYei ]fY`UXj UbW`X`Yj Y`g`cZ`Wc`a a i b]W]h]cb`hc  
YbUV`Y`cb[ c]b[ `XYj Y`cda Ybh`"

# 5ggYgga Ybh

## 5ggYgga YbhHUg\_g`

5ggYgga YbhHUg_	K Y][ \h	8i Y`8UHŸ	Gh XYbh@YUfb]b[ Ci hWta Yg`5ggYggYX
@YHŸf`hc`h`Y`9X]hcfcfc Cd]b]cb`D]YVW`	' )	&*#`\$`#&\$&\$`\$`\$`.( ( `DA	%ž)
A YX]U`d`Ub`Zcf`Bcb!DfcZ]h C f[ Ub]gU]cb`	' \$	%+`#`\$`+`#&\$&\$`\$`\$`.( + `DA	&ž ž)
A YX]U`F`Y`YUgY`	' )	\$+`#`\$, `#&\$&\$`\$`\$`.(, `DA	( ž)

## 5ggYgga Ybh8YHJ]`g

5ggYgga Ybh%`@YHŸf`hc`h`Y`9X]hcfcfc`Cd]b]cb`D]YVW`

GHŸfhXUHŸ. `Bch5dd`]WVY`

@Yb[ h. `GYY`gm`UVi`g`

8YHJ]`g.

@YHŸf`hc`h`Y`YX]hcfcf&\$`\$`k`cfXgŁ`Ž`fU]cbU`Y`f) \$`\$!, \$`\$`k`cfXgŁ`C`F`cd]b]cb`d]YVW`f) \$`\$`k`cfXgŁ`Ž`fU]cbU`Y`f) \$`\$!, \$`\$`k`cfXgŁ`

K`f]hŸb`ZYXVUW`\_`k`j`VY`dfcj`j]YX`VmiŸUW]b[ `ghUZ`

Gi Va ]gg]cb`bchYg.GYY`gm`UVi`g`Zcf`XYHJ]`g`

5ggYgga Ybh&.`A YX]U`d`Ub`Zcf`Bcb!DfcZ]hC`f[ Ub]gU]cb`

GHŸfhXUHŸ. `

8YHJ]`g.

; fci`d`5ggYgga`YbhA`YX]U`D`Ub`Zcf`Bcb!DfcZ]hC`f[ Ub]gU]cb`f) \$`\$`k`cfXgŁ`; fci`dg`k`j`hmd]W]`mWcbg]ghcZ`  
`hc`) `gh`XYbhg`H\]g]g`h`Y`Z]bU`UggYgga`YbhHUg\_`

K`f]hŸb`ZYXVUW`\_`k`j`VY`dfcj`j]YX`VmiŸUW]b[ `ghUZ`

5XX]h]cbU`XYHJ]`g.

GYY`gm`UVi`g`Zcf`XYHJ]`g`

5ggYgga Ybh`. `A YX]U`F`Y`YUgY`

GHŸfhXUHŸ. `

8YHJ]g.

A YX]U'fY'YUgY'fI \$\$'k cfXgŁŻ'fU]cbU'Y'f) \$\$!, \$\$'k cfXgŁ"

K f]hYb'ZYXVUW\_k ]'VY'dfcj ]XYX'VmH'UW]b[ 'ghUZ'

5XX]h]cbU'XYHJ]g.

GYY'gm'UVi g'Zcf'XYHJ]g"

F Ygci fWg

DfYgWf]VYX`F Ygci fWg`

GY`h`Y`gm`UVi g`cb`A ccX`Y`Zcf`Wca d`Yh`XYHJ]`g"

F YWca a YbXYX`F Ygci fWg

7ci fgY`9j U`i Uh]cb`UbX`8Yj Y`cda Ybh

Gi Va ]gg]cb 'cZ5ggYgga YbhiHUg\_g

Hi fb]h]b 'Gi Va ]gg]cb

≠mci 'YbWci bHYf'U'dfcV'Ya 'k \Yb'UH'Ya dh]b[ 'hc'gi Va ]hirci f'Ugg][ ba Ybhi'fci [ \ 'Hi fb]h]bž'd'YUgY  
HY'Yd\cbY'9I HYfbU'Gi ddcfhcb'- ' , ) " ' ' %cf'Ya U] 'h'Ya 'cb'YI HYfbU'HY'hgi ddcfh i bgk "YXi "Ui "'Gi ddcfh

## 5 WUXYa ]W< cbYgmiUbX`D`U[ ]Uf]ga

D`U[ ]Uf]ga `]g`i`g]b[ `h`Y`k`cfXg`cf`]XYUg`cZc`h`Yfg`UbX`d`fYgYbh]b[ `h`Ya`Ug`mci`f`ck`b``#WUb`hU`\_`Y`a`Ubm`  
Zcfa`gZ`Zca`X`Y`]VYfU`h`V`X`Y`U`h]b[ `h`c`U`W`Y`X`Y`b`h`U`m`i`W`c`d`m]b[ `Z`ca`U`g`ci`f`W`k`]h`ci`h`U`W`\_`b`c`k`Y`X[ `Ya`Y`b`h`

I`B`G`K` `[`f`ci`d`g`d`U[ ]Uf]ga `]b`h`c`h`Y`Z`c``c`k`]b[ `W`U`h`Y`[`c`f]Y`g.

7`c`d`m]b[ `.`i`g]b[ `h`Y`g`U`a`Y`c`f`j`Y`f`m`g]a`]U`f`k`c`f`X`g`h`c`h`Y`c`f][`]b`U`h`Y`h`c`f`]X`Y`U`k`]h`ci`h`U`W`\_`b`c`k`Y`X[`]b[ `h`Y`



- i bXYfghUbx'mci f'f][ \hg'UbX'fYgdcbg]V]h]Yg'Ug'U'gh XYbhUhl BGK
- VY'Uk UfY'cZd'U[ ]Uf]ga ž'Wc'dmf][ \hž' BGK 'Gh XYbh7cXY'cZ7cbXi W'Ubx'5W'W'dhUV'Y'I gY'cZ I BGK '⇒H'F'Ygci f'W'g'Dc`]W'h
- VY'Uk UfY'cZ'Y'ghUbxUfXg'cZVY\Uj ]ci f'YI dY'W'X'cZYj Yfmcby`]b'h'Y'I BGK 'W'a a i b]m
- `cW'W'h'gYfj ]W'g'UbX' ]bZ'fa U]cb'UVci hl BGK 'UbX'I BGK '@]VfUfm

Gca Y'cZ'Y'gY'UfY'Ug'k ]`VY'ZJa ]]Uf'hc'mci ž'c'h'Y'fg'k ]`VY'bYk " "; U]b]b[ 'U'gc`X'i bXYfghUbx]b[ 'cZU`'h'Y fY'U'Y'X'UgdY'W'g'cZ9@-G9'k ]`'Y'd'mci 'a U\_Y'h'Y'a cgh'cZ'mci f'gh X]Yg'Uhl BGK ""

[\h'hd.##gi V'Y'W'i \]X'Y'g"\]VfUfm'i bgk "Y'Xi "U'i #' \]gY#\]V'ci h' \]gY](#)

