



IEST5002

Hcc`g`Zcf`9bj]fcbA YbhU`A UbU[Ya Ybh

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

7 ci fgY`Cj Yfj]Yk

`GHUZZ7cbhUWhi8YHU]`g`

`7cbj Ybcfg`

B Ua Y	9a U]`	5j U]`UV]`]m	@cWU]hcb	D\cbY
DUi `Hk ca Ym	d"rk ca Ym# i bgk "YXi "Ui	Uddc]bha Ybhg`WUj VY`a UXY`j]U`Ya U]`		

GW\cc``7cbhUWhi#Zcfa U]hcb

GW\cc``cZ<i a Ub]hYg`UbX`@Ub[i U[Yg

@cWU]hcb. `GW\cc``C Z]WZA cfj Yb`6fck b`6i]X]b[ž@Yj Y``&ž&),

CdYb]b[`<ci fg.`A cbXUm!` : f]XUmž`- Ua `!) da

D\cbY. `Ž*%&`-`' ,)` :%*, %

: Ul. `Ž*%&`-`' ,)` ; +\$)

9a U]. [\U`4 i bgk "YXi "Ui](#)

7ci fgY'8YHJ]`g

7fYX]hDc]bHg`*`

Gi a a UfmicZ\hY'7ci fgY

H\]g`Wci fgY`dfcj]XYg`mci `k]h`Ub`]bhfciXi W]cb`hc`h`Y`k]XY`fUb[Y`cZ`"hc`c`g`"i`gYX`]b`Ybj]fcb`a`YbH`
a`UbU[Ya`Ybh`UbX`Zcf`Ybj]fcb`a`YbH`"XYW]g]cb!a`U_]b["H\YgY`]bW`XY`Ybj]fcb`a`YbH`"a`dUW`UggYgga`YbH`
di`V`]WdUf]W]dU]cbZ`f]g_`a`UbU[Ya`YbH`Ybj]fcb`a`YbH`"a`UbU[Ya`Ybhgm]h`a`gZ`]Z`W`WY`UggYgga`YbH`
W`fdcfU]h`gi`ghU]bUV]`]m]gi`ghU]bUV]`]m]bXYI`YgZ`GHU]Y`cZ`h`Y`9bj]fcb`a`YbH`Ydcf]b[ž`Ui`X]h]b[ž`a`cb]rcf]b["
@]b_g`k`]`VY`XfUk`b`VY`k`YYb`h`Y`"hc`c`g`"Wci fgY`UbX`a`U]h]f]U`Wcj`YfYX`]b`"":`fUa`Yk`cf_g`Zcf`Ybj]fcb`a`YbH`
a`UbU[Ya`Ybh`"UbX`h`Y`"Z`bXUa`YbH`"bck`YX[Y`"Wci fgYg`"H\]g`Wci fgY`k`]`dfcj]XY`mci `k]h`Ub
]bhfciXi W]cb`hc`U`bi`a`VY`f`cZ`gdY`W]U`]gh`Wci fgYg`h`U`h`a`Um`VY`h`U`Yb`Ug`Y`Y`W]j`Yg`f]b`Zcf`YI`Ua`d`Y
Ybj]fcb`a`YbH`"a`dUW`UggYgga`YbH`"

7ci fgY`@YUfb]b[`Ci hWca Yg

%`Ci`h]b]Y`UbX`W]h]ei`Y`h`Y`fUb[Y`cZ`hc`c`g`i`gYX`Zcf`Ybj]fcb`a`YbH`"XYW]g]cb!a`U_]b[
&"

5ggYgga Ybh

5ggYgga YbhHUg_g`

5ggYgga YbhHUg_	K Y][\ h	8i Y`8UH`	Gh XYbh@YUfb]b[Ci hWta Yg`5ggYggYX
Hi hcf]U`YI YfW]gYg`UbX X]ghUbW`dcgrg`	&\$i	D`YUgY`gYY`A ccX`Y`g]h`Zcf]bgrfi W]cbg"	%z&z{
@UbX`WcbhJa]bUh]cb UggYgga Ybh	&\$i	9Ufm]b`hY`hYfa "`GYY A ccX`Y`g]h`Zcf`XYH]`g"	&z
7 f]h]W`dfYgYbhU]cb`	&\$i	Mci `k]`dfYgYbh]b`Y]hYf K YY_+`cf`K YY_`%\$`"GYY A ccX`Y`g]h`	%z&z{
:]bU`9ggUm	(\$i	8i Y`Uh`hY`YbX`cZ`hYfa "	%z&z{

5ggYgga Ybh8YHJ]`g

5ggYgga Ybh%`Hi hcf]U`YI YfW]gYg`UbX`X]ghUbW`dcgrg`

GHUfhXUH`. `7ca a YbW]b[`Zca `K YY_`%

8YHJ]`g. %&`Ga U`hi hcf]U`UW]j]hYg`fD) \$\$`k cfXg`E`cb`hY`hcc`g`UbX`hY]f`Udd`]W]h]cbg`"C`f`k`YY_`mX]ghUbW`
dcgrg`c] Yf`%\$`k`YY_g`cZ`Uddfcl`) \$\$`k cfXg`" `bX]j]Xi U`cf [fci d`ZYXVUW_`dfcj]XYX"

Hi fb]h]b`gYH]b[. `H\]g`]g`bchU`Hi fb]h]b`Ugg][`ba`Ybh

5ggYgga Ybh&. `@UbX`WcbhJa]bUh]cb`UggYgga Ybh

GHUfhXUH`. `

@Yb[`h. `%\$\$\$`k`cfXg

8YHJ]`g. `@UbX`WcbhJa]bUh]cb`UggYgga YbhUbX`fYdcfhcZ%\$\$\$`k`cfXg`" `bX]j]Xi U`ZYXVUW_`dfcj]XYX

Gi Va]gg]cb`bchYg.Gi Va]hj]U`A`ccX`Y`"

Hi fb]h]b`gYH]b[. `H\]g`]g`bchU`Hi fb]h]b`Ugg][`ba`Ybh

5ggYgga Ybh' . `7 f]h]W`dfYgYbhU]cb`

GHUfhXUH`. `

8YHJ]`g. ; fci d`dfYgYbhU]cbg`cZ%) `hc`&\$`a]bi`hY`g`W]h]W`m`fYj]Yk]b[`U`gdYW]Z]WfYdcfhfYZYW]b[`cbY`cZ
hY`hcc`g`f`i; fci d`ZYXVUW_`dfcj]XYX"; fci d`dYf`fYj]Yk `U`ck`YX

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

: i ``XYHJ]`g`Uj`U]UV`Y`j]U`mci`f`A`ccX`Y`g]h`" `DfYgYbhU]cb`]g`Y]hYf`]b`WUgg`c`f`cb!]`bY`"

		<p>h\Y'Wci fgY - '9bj]fcbA YbHU' A UbU[Ya YbhGmgH'a g" Ci f' [i Ygh'YWh fYf']g' =Ub' < i bhYf"</p> <p>@Uf[Y'mci f'ZcW g']g'cb'WcfdcfUHY' UbX' [cj Yfba Ybh cf[Ub]gUhcBg' UbX'h\Y]f'UddfcUWX'Yg'hc'ghUbxUfXgZ gmgH'a gZ]bX]W]hcf'gZ'fY [i 'UhcBgZ'fYdcf]b['UbX a cb]hcf]b["K Y'k]'a Ud'ci h\Y'gWcdY'cZgmgH'a g UddfcUWX'YgZ'UbX'XfUk' 'cb'ci f'ck b'dfcZYgg]cbU' Yl dYf]YbW' UbX#cf']bhYfYg]h'hc' d'fYdUfY' W]h]W']bYg cZ]bei]fmk Y'k ci 'X']Y'hc' Yl d'cfY'UW'cgg'Z'c'ck]b[k YY_g"</p>
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K YY_*. ; ' > i ' m! '% & ' > i ' m	GYa]bUf	<p>H\fcI [\ci h\Y'Wci fgY'mci 'UFY'Yl dYW]X'hc i bXYfU_Y']bXYdYbXYbhfYgYUfW' UbX' fYUX]b[/]bWi X]b['Zcf'h\]g'a cXi 'Y'cb'9bj]fcbA YbHU' A UbU[Ya YbhGmgH'a g" Mci 'k]'Yl d'cfY'W ffYbh dfUW]W]g'fUbX' f'YghdfUW]W]f'i gYX'Vm[cj Yfba Ybhg UbX'WcfdcfUhcBg" Mci 'k]'gi Va]hU'g\cfhV'c['d]YW fYZYW]b['cb'k \Uhmci 'Uj Y'X]gWc'j YfYX" H\]g'k YY_ mci 'k]'Vf]b['mci f'ei Ygh]cbg'UbX'Z]bX]b[g'Zca 'mci f cb!]bY'gh'XmcZ9bj]fcbA YbHU' A UbU[Ya Ybh GmgH'a g'hc' h\Y'WUgg'fcc'a 'fZcf'cb! W]a di g gh'XYbhg'UbX'Ub'cb!]bY'Zcf' a 'fB]ghUbw' gh'XYbhg' H\Y'UddfcUWX'k]'VY'U'Wc'a V]bUhc'b'cZg\cfh 'YWh' fYgZ'gYa]bUf'gmY'Z'UbX']bhYf'UW]j Y'X]gW'gg]cb cZ_Ym]ggi Yg'UbX'XYj Y'cda Ybhcz'ei Ygh]cbg'Zcf W]h]W' Yj U'i Uh]cb'cZW ffYbhdfUW]W]"</p> <p>8YHU]g'UFY'Uj U]UV'Y'cb'mci f'A ccX'Y'g]hY"</p>
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K YY_+. % ' > i ' m! '% - ' > i ' m	GYa]bUf	<p>H\]g']g'h\Y'Z]fghk YY_]b'k \]W'gh' XYbhg'k]'dfYgYbh g\cfhgYa]bUfg']b'WUgg'fC b! W]a di g'gh' XYbhg'k'cf dcghZ]bX]b[g'UbX'X]gW'gg]cb'a UHYf]U'fB]ghUbw gh'XYbhg'</p> <p>5ddfcl]a UH'm\U'Z'h\Y'WUgg'k]'dfYgYbh'h\]g'k YY_ž cb'U'hc'd]WfY'UH'X'hc'9bj]fcbA YbHU' A UbU[Ya Ybh GmgH'a g" H\Y'Ya d\$Ug]g %d' VY'cb'W]h]W' Yj U'i Uh]cb'cZW ffYbhdfUW]W]"</p> <p>: i 'XYHU]g'UFY'Uj U]UV'Y'cb'mci f'A ccX'Y'g]hY"</p>
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GYa]bUf K YY_ ; ' & ' > i ' m! '* ' > i ' m	GYa]bUf	<p>H\]g'k YY_VY []bg'h\Y'h]fX'UbX'Z]bU'a cXi 'Y'Zcf'h\Y Wci fgY - 'cb'5XX]h]cbU' Hcc'g'Zcf'9bj]fcbA YbHU' A UbU[Ya Ybh' H\]g'h]a Y'ci f'ZcW g']g'cb'U'gi]h'cZ gdYW]Z]W]hcc'gZ']bWi X]b[; Yc[fUd\]W]h'Zcf'a Uh]cb GmgH'a gZ'@]Z' 7 mWY'5ggYgga YbhZ'F]g_ 5ggYgga YbhZ'UbX']bX]W]hcf'g'Zcf'i fVUb'g a YbhZ'F V %</p>
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		<p>Mci`UfY`U'gc`YI`dYW`X`hc`Xc`]bXYdYbXYbhfYgYUfW` UbX`fYUX]b[`cb`h`Y`gY`YW`X`ficc`gfifl`-Gž@75žYHw` H\Y`ZcW`g`k`]`VY`cb`gdYW`Z]WUgY`gh`X]Yg`"Mci`k`]"` gi`Va`]hU`g\cfhV`c[`d]YW`fYZYW]b[`cb`k` \Uhmci` \Uj`Y`X]gW`j`YfYX`"</p> <p>:`i` ``XYHJ]g`cZfYUX]b[`gžk`YVg]h`gž`XcW`a`Ybhg`UbX` ch`Yf`gci`fW`g`k`]`VY`[`j`Yb`j`]U`mci`f`A`ccX`Y`g]h`"</p>
<p>K`YY`_`-`.`&-`>i`m!`& 5i`[i`gh`</p>		<p>H\]g`k`YY`_`k`Y`k`]`hU`W`Y`U`dfUW]WU`YI`YfW]gY`cb` ;`Yc[`fUd\]WU`-`ž`cfa`U]cb`Gmg]h`a`gžk`]h`[`i`Ygh` dfYgYbhYf`7`U]h]b`đi`W`_`Y`"</p> <p>8`YHJ]g`UfY`Uj`U]UV`Y`cb`mci`f`A`ccX`Y`g]h`"</p>
<p>K`YY`_%\$.`.)`5i`[i`gh!`-` 5i`[i`gh`</p>	<p>GYa`]bUf`</p>	<p>H\]g]g`h`Y`gYW`bX`cZ`k`c`k`YY`_`g`]b`k` \]W`gh`XYbhg` k`]`dfYgYbhg\cfhgYa`]bUfg`]b`WUgg`f`c`b!W]a`di`g` gh`XYbhg`k`c`f`dcgh]bX]b[`g`UbX`X]gW`gg]cb`a`U]h]U` fB]g]hUbW`gh`XYbhg`k`"</p> <p>5`ddfc]`ja`U]h`m` \U`Z`h`Y`WUgg`k`]`dfYgYbh]h]g`k`YY`_`ž` cb`U`hc`d]WfY`U]h`X`hc` ;`Yc[`fUd\]WU`-`ž`cfa`U]cb` Gmg]h`a`gž`@]Z`7`mWY`5`ggY`gga`Y`bhž`F`]g`_` 5`ggY`gga`Y`bhž`Gi`ghU]bUV]`]m`-`ž`X]W]h`fg`UbX`#`f`c`h`Yf` U`ddfc`U`W`Y`g`"5`[`U]b`h`Y`Ya`d`U`g]g`k`]`VY`cb`W]h]WU` Yj`U`i`U]cb`c`ZW`ffY`bhdfUW]W`g`"</p> <p>:`i` ``XYHJ]g`UfY`Uj`U]UV`Y`cb`mci`f`A`ccX`Y`g]h`"</p>
<p>K`YY`_%%`%&`5i`[i`gh!`%*` 5i`[i`gh`</p>	<p>GYa`]bUf`</p>	<p>đf]b[]b[]]hU` ``hc[`Y`h`Y`f`""`</p> <p>H\]g`k`YY`_`k`Y`k`]`XY`j`Y`cd`ci`f`cj`Yfj`]Yk`c`Z`h`Y` k` \c`Y`W`ci`fgYž`UbX`i`gY`XYVU]h`UbX`X]gW`gg]cb`hc` YI`d`c`f`Y`h`Y`ficc` \UfX`VUg`_`Y`hf`-`hc`W]h]WU`m`UggY`gg` h`Y`d`ch`bh]U`UbX`]`ja`]h]h]cbg`c`ZYbj`]f`cba`Y`bhU` a`UbU[`Ya`Y`bh]c`gž`UbX`fY`U]h`Y`Ufb]b[`g`Z`fca`h`Y` W`ci`fgY`hc`mci`f`ck`b`dfc`Z]gg]cbU`XYj`Y`cda`Y`bh`</p>

F Ygci fWg

DfYgWf]VYX`F Ygci fWg`

H\YgY`k]``VY`UWYgg]V`Y`j]U`mci f`A ccX`Y`g]h`UbX`i`g]b[`h`Y`@9; 5BHC`gmg]h`a`"

F YWca a YbXYX`F Ygci fWg

H\YgY`k]``VY`UWYgg]V`Y`j]U`mci f`A ccX`Y`g]h`UbX`i`g]b[`h`Y`@9; 5BHC`gmg]h`a`"

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

Gh XYbhZYXVUW`k]``VY`j]U`A m9I dYf]YbWY`"DUghZYXVUW`_\Ug`]bX]WU]h`X`h`Y`b`Y`Y`X`Z`c`f`U`f`W`Y`b`X`Y`X`f`i`
UddfcUWX`Y`h`Uh]bWc`f`d`c`f`U`h`g`W`U`g`g`f`c`c`a` `c`f`c`b!`])b`Y`g`Y`a`]b`U`f`g`k`]h` `]b`X`Y`d`Y`b`X`Y`b`h`f`Y`g`Y`U`f`W`z`U`b`X`k` Y` \Uj` Y`
Y`b` \U`b`W`Y`X`h`]g`UddfcUWX`"

5 WUXYa]W<c bYghmiUbX`D`U[]Uf]ga

D`U[]Uf]ga `]g`i g]b[`h`Y`k cfXg`cf`]XYUg`cZc`h`Yfg`UbX`dfYgYbh]b[`h`Ya `Ug`mci f`ck b" `h`WUb`hU`Y`a Ubm
Zcfa gž`Zca `XY`]VYfU`h`W`Y`U`h]b[`h`U`W`Y`X`Y`b`U`m`W`c`d`m]b[`Zca `U`gci f`W`k`]h`ci h`U`W`_`b`c`k `Y`X[`Y`a `Y`b`f`

I BGK `[fci dg`d`U[]Uf]ga `]b`h`h`Y`Zc`ck]b[`W`U`h`Y[cf]Yg.

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

5 WUXYa]WbZcfa Uh]cb`

: cf`YggYbh]U`ghi XYbh]bZcfa Uh]cb`fY`Uh]b[`hc.

- fYei Ygh]Zc`fYI h`bg]cb/
- `Uh]`gi Va]gg]cbg`[i]XY`]bYg/
- fYj]Yk `cZa Uf_g/
-