



**EDST5808**



7ci fgY`Cj Yfj JYk


7 ci fgY'8YHJ]`g

7 fYX]hDc]bHg`\*`

Gi a a UfmicZh\Y'7 ci fgY

H\]g`Wci fgY`]g`Ub`]bfcXi W]cb`hc`h\Y`\_YmWcbW`dHg`UbX`]ggi Yg`gi ffc`i bX]b[ ` [ ]ZHX`YXi W]h]cb" H\fc`i [ \`U`a` ]l`h`fY`cZcb`]bY`Y`W`fYg`z`gY`Z`X]fY`W`Y`X`U`W`h]`]h]Yg`z`X]g`W`gg]cb`Zc`fi`a`g`UbX`g`Y`Z`X]fY`W`Y`X`fY`UX]b[ `z`mci`k`]"` [ U]b`]bZc`fa`U]h]cb`UbX`g\_]`g`fY`U]h]b[ `hc`h\Y`. `fU`E`XY`Z]b]h]cbg`z`WcbW`d]h]cbg`z`UbX`a`c`XY`g`c`Z [ ]ZHX`b`Y`gg`z` ]b`W`i`X]b[ `h`c`g`Y`W`c`a`a`cb`mi`g`Y`X`]b`5`i`g`f`U`]Ub`g`W`c`c`g`z`f`V`E`h`Y`W`c [ b]h] Y`UbX`U`Z`Y`W`h] Y`W`U`f`U`W`Y`f]g`h]W`g`c`Z [ ]ZHX`g`h`i`XY`b`hg`f`U`b`X`h`Y`f`X]Z`Y`f`b`W`g`hc`h\Y`W`c [ b]h] Y`UbX`U`Z`Y`W`h] Y`W`U`f`U`W`Y`f]g`h]W`g`c`Z`bc`b! [ ]ZHX`g`h`i`XY`b`hg`E`z`f`W`E`h`Y`a`U`c`f`d`f]b`W]d`Y`g`UbX`]b`g`f`i`a`Y`b`hg`i`g`Y`X`]b`h`Y`]X`Y`b`h]Z`W]h]cb`c`Z [ ]ZHX`g`h`i`XY`b`hg`z`f`X`E`X]j`Y`f`g`Y`[ `f`ci`d`g`c`Z [ ]ZHX`g`h`i`XY`b`hg`z`]b`W`i`X]b[ `h`k`W`Y`i`W`d]h]cb`U`gh`i`XY`b`hg`UbX`Y`i`W`d]h]cb`U`m [ ]ZHX`g`h`i`XY`b`hg`z`UbX`f`Y`E`W`Y`U`h] ]h`f`

5 h\Y`WcbWi`g]cb`cZ`h]g`Wci fgY`h\Y`g`h`i`XY`b`h`k`]"`VY`UV`Y`hc`

- % " X`Y`b`h]Z`m`U`b`X`Y`j`U`i`U`h`Y`h`Y`W`f`f`Y`b`h]g`g`i`Y`g`h`U`h]b`Z`i`Y`b`W`h`Y`Y`X`i`W`]h]cb`c`Z]b`h`Y`Y`W`i`U`m [ ]ZHX`g`h`i`XY`b`hg`"
- &" 8 ]g`W`g`g`k`U`m`g`]b`k`\]W`X`]b`h`Y`Y`W`i`U`m [ ]ZHX`g`h`i`XY`b`hg`X]Z`Y`f`Z`c`a`h`Y`f`U`[`Y`d`Y`f`g`]b`h`Y`f`W`c [ b]h] Y`UbX`g`c`V]c!`U`Z`Y`W`h] Y`X`Y`j`Y`c`d`a`Y`b`h`"
- ' " 5 g`g`Y`g`g`h`Y`W`i`g`Y`g`c`Z`U`W`U`X`Y`a`]W`i`b`X`Y`f`U`W`X]j`Y`a`Y`b`h]b`[ ]ZHX`g`h`i`XY`b`hg`"
- (" 9 ]U`a`]b`Y`g`c`a`Y`c`Z`h`Y`W`c`a`a`cb`a`m`h]g`U`g`g`c`W]U`h`Y`X`k`]h`h`Y`Y`U`f`b]b[ `b`Y`Y`X`g`c`Z [ ]ZHX`g`h`i`XY`b`hg`"
- ) " 8 ]g`W`g`g`k`U`m`g`]b`k`\]W`X`h`Y`U`W`Y`f`g`a`U`m`V`Y`U`V`Y`hc`]X`Y`b`h]Z`m [ ]ZHX`g`h`i`XY`b`hg`"

HYUWX]b[ `G`h`f`U`h`Y`[ ]Y`g`

HYUWX]b[ `g`h`f`U`h`Y`[ ]Y`g`

H\Y`h`Y`U`W`X]b[ `g`h`f`U`h`Y`[ ]Y`g`hc`V`Y`i`g`Y`X`]b`h`Y`W`c`i`fg`Y`k`]"`W`c`a`d`f]g`Y`U`a` ]l`h`fY`c`Z`cb`]bY`Y`W`i`fY`g`z`g`Y`Z`X]fY`W`Y`X`U`W`h]`]h]Yg`z`d`U`f]h]d`U]h]cb`]b`c`b`]b`Y`X]g`W`g`g]cb`Zc`fi`a`g`z`UbX`g`Y`Z`X]fY`W`Y`X`fY`UX]b[ `h`U`h`f`Y`Z`Y`W`i`Y`j`X`Y`b`W`!`V`U`g`Y`X`h`Y`U`W`X]b[ `d`f`U`W`h]W`g`"

F`U]h]cb`U`Y`

H\Y`W`c`b`h`Y`b`h`c`Z`h`Y`W`c`i`fg`Y`d`f`c`j`]X`Y`g`m`c`i`k`]h`U`b`c`j`Y`f]j`Y`k`c`Z`h`Y`a`U`c`f`]g`g`i`Y`g`f`Y`Y`j`U`b`h`c`h`Y`Y`X`i`W`]h]cb`c`Z [ ]ZHX`U`b`X`h`U`Y`b`h`X`g`h`i`XY`b`hg`" H\Y`h`Y`U`W`X]b[ `U`d`d`f`c`U`W`X`U`h`Y`a`d`h]g`hc`U`W`h] Y`m`Y`b[ U`[`Y`m`c`i`]b`X]g`W`g`g]cb`c`Z`W`f`f`Y`b`h`h`Y`c`f`m`U`b`X`d`f`U`W`h]W`z`U`b`X`U`g`g]g`h]g`m`c`i`]b`Y`U`f`b]b[ `b`Y`k`]b`Z`c`fa`U]h]cb`UbX`g\_]`g`fY`U`h`Y`X`hc`\_Y`m`W`c`b`W`d`h]g`]b`[ ]ZHX`Y`X`i`W`]h]cb`"M`c`i`k`]"`V`Y`f`Y`e`i`]f`Y`X`hc`h`U`\_Y`f`Y`g`d`c`b`g]V`]h`m`Z`c`f`m`c`i`f`c`k`b`Y`U`f`b]b[`]b`h`g`W`c`i`fg`Y`"

5i ghfU`]Ub`DfcZYgg]cbU` ; fUXi UhY`HYUW ]b[ `GHUbXUfXg

GHUbXUfX	8YgW]dh]cb
%"&"	9l dUbX`i bXYfgh]UbX]b[ `cZ\ck`gh`XYbhg`YUfb`i`g]b[ `fYgYUfW`UbX`k`cf_d`UW` _bck`YX[`Y`"
%)`""	9j U`i`UH`Y`YUfb]b[ `UbX`HYUW ]b[ `dfc[ fUa`g`i`g]b[ `gh`XYbhUggYgga`YbhXUH]z`h`UhUFY` X]ZYfYbh]UhY`X`Zc`f`h`Y`gdYW]Z]W`YUfb]b[ `bYYXg`cZgh`XYbhg`UW`cgg`h`Y`Z`""fUb[`Y`cZ` UV]]]hYg"
`""`""	Gi`ddcfh]W`YU[`i`Yg`h`c`gY`YW]h]UbX`Udd`mYZYW]j`Y`HYUW ]b[ `ghfUH[ ]Yg`h`XYj`Y`cd` _bck`YX[`Y`Z`g_]`g`z`dfcV`Ya`gc`j`]b[ `UbX`W]h]W`UbX`W]YU]j`Y`h`]b_]b[
`""`*&	9j U`i`UH`dYfgcbU`HYUW ]b[ `UbX`YUfb]b[ `dfc[ fUa`g`i`g]b[ `Yj`]XYbW]z]bW] X]b[ `ZYXVUW` Zca`gh`XYbhg`UbX`gh`XYbhUggYgga`YbhXUH]z`h`]bZcfa`d`Ubb]b[ "
*"&"&	DUfh]W]dUH`Y`]b`YUfb]b[ `h`c`i`dXUH`_bck`YX[`Y`UbX`dfUW]W]z]h]f[`Y`h`X`h`c`dfcZYgg]cbU` bYYXg`UbX`gW]cc`UbX`#cf`gm]h]a`df]cf]h]Yg"
*"(`"&	I`bXYfU`_Y`dfcZYgg]cbU`YUfb]b[ `dfc[ fUa`g`XYg][`bYX`h`UXXfYgg]`XYbh]Z]YX`gh`XYbh` YUfb]b[ `bYYXg"

# 5ggYgga Ybh

; YbYfU`UggYgga Ybh]bZcfa U]cb`a UmVY`UWwYggYX`]b`A ccX`Y"

## 5ggYgga YbhHUg\_g`

5ggYgga YbhHUg_	K Y][ \h	Gh XYbh@YUfb]b[ Ci hWta Yg 5ggYggYX	5 #HG@DfcZYgg]cbU`]; fUXi UHY HYUW]b[ `GHUbXUfXg`5ggYggYX	8i Y 8UHY
F YZYW]cb`	( \$i	%z&z( z)	%&" z%) "" z "" "	&*#\$` #& \$% \$). \$\$ DA
5Xj cWUWniUfhjWY`	* \$i	&z z( z)	%&" z ""&z*"& &z*" ("&	&%( \$) #& \$% \$). \$\$ DA

D`YUgY`fYZf`hc`3gefS`[S` BdaWwee[a` S`^E fS` VSdVe XadFWSUZWde`cb`hY`dfYj`]ci`g`dU[`Y

## 5ggYgga Ybh8YhU]`g

5ggYgga Ybh%`F YZYW]cb

GHUfhXUHY. `Bch5dd`]WUV`Y

8YhU]`g. `HUg\_`%!`DfYdUFY`U`dUdYf`h`UhdFcj`]XYg`U`fYZYW]cb`cb`[`]ZYX`ghi`XYbtrg`#`]ZYX`YXi`WU]cb`k`]h`  
fYZfYbW`hc`h`Y`]]fYfUhi`fY`Gh`XYbtrg`k`]`fYW]j`Y`k`f]hYb`ZYXVUW`k`]h`]b`%\$`XUmg`cZgi`Va`]gg]cb

Hi`fb]h]b`gYH]b[`. `H\]g`Ugg][`ba`Ybh]g`gi`Va`]hYX`h`fci`[`\`Hi`fb]h]b`UbX`ghi`XYbtrg`WUb`g`gY`Hi`fb]h]b`g)a`]`Uf]m

Gi Va ]gg]cb'cZ5ggYgga YbhHUg\_g

Gh XYbng'UFY'YI dYW'X'hc'di h'AY]f'bUa Yg'UbX'ghi XYbhbi a VYfg'cb'Yj YfmdU[ Y'cZ'AY]f'Ugg][ ba Ybng"

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

Zmci 'YbWci bHYf'U'dfcV'Ya 'k \Yb'UHYa dh]b[ 'hc'gi Va ]hrci f'Ugg][ ba Ybh'fci [ \ 'Hi fb]h]bzd'YUgY  
HY'Yd\cbY'9I HYfbU'Gi ddcfhcb'-', ) '' '' %cf'Ya U]'h'Ya 'cb'[YI HYfbU'HY'fji ddcfh i bgk "YXi "Ui."](#)Gi ddcfh  
\ci fg'UFY', .\$\$Ua '-'%. \$\$da 'cb'k YY\_XUmg'UbX'-. \$\$Ua '-'). \$\$da 'cb'k YY\_YbXg'f1 \*) 'XUmg'U'mYUfL" Zmci  
UFY'i bUV'Y'hc'gi Va ]hrci f'Ugg][ ba YbhXi Y'hc'U'ZU' 'hk ]h'Hi fb]h]b'mci 'a UmiUdd'm'Zcf'Ub'YI HYbg]cbz'Vi hrci  
a i ghfYh]b'mci f'h]W\_Yhbi a VYf'Z'ca '9I HYfbU'Gi ddcfhfU'cb[ 'k ]h'Ubmc'h'Yf'f'Yj UbhXcW a Ybng'hc  
]bW' XY'Ug'Yj ]XYbW'hc'gi ddcfhrci f'YI HYbg]cb'Udd'j]W]h]cb" Zmci 'Ya U]'9I HYfbU'Gi ddcfhrci 'k ]`  
Ui 'ca U]W'`m'f'Y'W'j] Y'U'h]W\_Yhbi a VYfz'Vi h]Zmci 'HY'Yd\cbY'mci 'k ]`b'Y'X'hc'gd'Y'W'Z]W'`m'Ug\_'Zcf'cbY"  
Hi fb]h]b'U'gc'dfcj ]XYg'i dXUHYg'cb'h'AY]f'gmgh'Ya 'ghU'h'g'cb'Hk ]HYf"

; YbYfU'`mz'UggYgga YbhHUg\_g'a i ghVY'gi Va ]HYX'Y'Y'W'fcb]W'`mj ]U'Y]h'AYf'Hi fb]h]b'cf'U'A ccX'Y  
Ugg][ ba Ybh'`b ]bg'U'ub'W'g'k \YfY'h' ]g' ]g'bchidcgg]V'YZ'jhk ]`VY'g'U'HYX'cb'mci f'Wci fgY'g'A ccX'Y'g]HY'k ]h  
U'HYfbU'h] Y'gi Va ]gg]cb'XYh]g"

@UH'5ggYgga YbhDYbU'h]Yg

f`G][ b]Z]WbhmUZZYWhmci f`dYfZcfa UbWV`]b`UggYggUV`Y`k cf\_žVY`]hU`Zcfa U`YbX!cZgYa YghYf`YI Ua ]bUh]cbžU  
WUgg`hYghž`U`UVcfUhc fmi`hYghž`U`gYa ]bUf`dfYgYbUh]cb`cf`Ubmich`Yf`Zcfa`cZUggYgga`YbH`

: cf`Z`f`h`Yf`XYhU]`g`]b`fY`Uh]cb`hc`GdYWU`7`cbg]XYfUh]cb`]bWi`X]b[`K`Yb`hc`5dd`mž`<`ck`hc`5dd`m`UbX  
"Gi`ddcfh]b[`8`cW`a`YbUh]cb`"d`YUgY`fYZYf`hc`h`Y`GdYWU`7`cbg]XYfUh]cb`k`YVgh]Y`.

[\hdg.#gh`XYbhi`bgk`"YXi`"Ui`#gdYWU`!Wcbg\]XYfUh\]cb](#)

## 5 WUXYa ]W<c bYghmUbX 'D`U[ ]Uf]ga

D`U[ ]Uf]ga ]g'i g]b[ 'hY`k cfXg'cf]XYUg'cZchYfg'UbX'dfYgYbh]b[ 'hYa`Ug'mci f'ck b" #WUb'hU\_Y'a Ubm Zcfa gž Zca`XY]VYfUHy`WXYU]b[ 'hc`UWV]XYbU`mWčdm]b[ Zca`U`gci fW`k ]hci hUW\_bck`YX[ Ya`Ybh'

I BGK`[ fci dg'd`U[ ]Uf]ga`]bhc`hY`Zc`ck ]b[`WUHy`[ cf]Yg.

7cdm]b[.`i g]b[ 'hY`gUa`Y`cf`j`Yfmg]a`]Uf`k`cfXg`hc`hY`cf][ ]bU`hY`hcf`]XYU`k`]hci`hUW\_bck`YX[ ]b[ 'hY`gci`fW`cf`i`g]b[ `ei`chU]cb`a`Uf`g`"H`]g`U`gc`Udd`]Yg`hc`]a`U[ Ygž`Ufh`UbX`XYg][`b`dfc`YWgž`Ug`k`Y`"Ug`dfYgYbU]h]cbg`k`YfY`gca`YcbY`dfYgYbh]g`Ubc`h`Y`f`g`]XYUg`cf`k`cfXg`k`]hci`hWYX]h'

#Uddfcdf]UHy`dUfUd`fUg]b[.`W`Ub[ ]b[ `U`Zy`k`cfXg`UbX`d`fUgYg`k`Y`a`cghm`fYU]b]b[ 'hY`cf][ ]bU`g]fi`W`fY`UbX`]bZcfa`U]cb`k`]hci`hUW\_bck`YX[ Ya`Ybh`"H`]g`U`gc`Udd`]Yg`]b`dfYgYbU]h]cbg`k`YfY`gca`YcbY`dUfUd`fUgYg`Ubc`h`Y`f`g`]XYUg`cf`k`cfXg`k`]hci`hWYX]h'" #U`gc`Udd`]Yg`hc`d`]YW]b[ `hc`[ YhYf`ei`chYg`UbX`dUfUd`fUgYg`]bhc`U`bYk`k`c`Yž`k`]hci`hYfZYfYbW]b[ `UbX`U`gh`XYbh]g`ck`b`UbU`mg]g`hc`Vf]b[ 'hY`a`UHyf]U`hc`[ YhYf"

7c`i`g]cb.`k`cf\_]b[ `k`]h`chYfg`Vi`hdUgg]b[ `cZ`hY`k`cf`\_`Ug`U`dYfgcb`g`]bX]j`]Xi`U`k`cf`\_"7c`i`g]cb`U`gc`]bWi`XYg`dfcj`]X]b[ `mci`f`k`cf`\_`hc`Ubc`h`Yf`gh`XYbhVYZc`fY`hY`Xi`Y`XUHy`ž`cf`Zc`f`hY`di`fdcgY`cZ`h`Ya`d`U[ ]Uf]g]b[ `Uh`Ubmi]ja`Yž`dUm]b[ `Ubc`h`Yf`dYfgcb`hc`dYfZc`fa`Ub`UWUXYa`]W]Ug`ž`ghU`]b[ `cf`UWči`]f]b[ `Ubc`h`Yf`dYfgcb`g`UWUXYa`]Wk`cf`\_`UbX`Wč`dm]b[ `]ž`c`ZYf]b[ `hc`Wč`a`d`YHy`Ubc`h`Yf`dYfgcb`g`k`cf`\_`cf`gYY\_]b[`dUma`YbhZc`f`Wč`a`d`Y]b[ `UWUXYa`]Wk`cf`\_"

#Uddfcdf]UHy`W]U]cb.`7`]h]b[ `gci`fW`g`k`W`Uj`Y`bchVYYb`fYUXž`k`]hci`hUW\_bck`YX[ ]b[ `hY`"gYWč`bXUfm`gci`fW`Zca`k`W`\_bck`YX[ Y`cZ`h`Ya`U`g`VYYb`cVU]bYX"

8i`d`]WU]cb`ffgY`Zd`U[ ]Uf]ga`"E`gi`Va`]h]b[ `mci`f`ck`b`k`cf`\_ž]b`k`c`Y`cf`]b`dUf]ž`k`YfY`]h`Ug`dfYj`]ci`g`m`VYYb`dfYdUfYX`cf`gi`Va`]hYX`Zc`f`Ubc`h`Yf`UggYgga`Ybhcf`Wč`i`fgY`Uhi`BGK`cf`Ubc`h`Yf`i`b]j`Yfg]m'

7c`ffYW`fYfYbW]b[ `dfUW]W]g.

- DUFUd`fUg]b[ žgi`a`a`Uf]g]b[ žYggUmk`f]h]b[ `UbX`h]a`Y`a`UbU[ Ya`Ybh`
-



- VYhYf'a UbU[ Y'mci f'h]a Y
- i bXYfgHUbX'mci f'f][ \hg'UbX'fYgdcbg]V']hYg'Ug'U'gh XYbhUhl BGK
- VY'Uk UfY'cZd'U[ ]Uf]ga ž'W'dmf][ \hž' BGK 'Gh XYbh7cXY'cZ7cbXi WñUbX'5WwdfUV'Y'l gY'cZ  
I BGK '⇒ H'F Ygci fW'g'Dc`]Wñ




