



# IEST7500

9bj ]fcba YbHJ`A UbU[ Ya Ybh`9b[ ]bYYf]b[ `: i bXUa YbHJ`g

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

7ci fgY`Cj Yfj ]Yk

`GHUZZ7cbhUWhi8YHU]`g`

`7cbj Ybcfg`

B Ua Y	9a U]`	5j U]`UV]`]m	@cWU]hcb	D\cbY
7c`]b`GU`hYf`	WgU`hYf4 i bgk "YXi "Ui	Uddc]bha Ybhg`j ]U Ya U]`		

GW\cc``7cbhUWhi`bZcfa U]hcb

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

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

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

D\cbY. `ž`\*%&`i`-`'` , )` :`%\*` , %

: U! . `ž`\*%&`i`-`'` , )` ;` , +\$)

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

7ci fgY'8YHJ]`g

7fYX]hDc]bHg`\*`

Gi a a UfmicZ`h`Y'7ci fgY

H\]g`Z bXUa YbH`\_bck`YX[ Y`fi ? E`Wci fgY`]g`]bhYbXYX`df]a Uf]miZcf`A UghYfg`cZ9bj ]fcba YbH`  
A UbU[ Ya Ybghi XYbHg`k \c`Xc`bch`Uj Y`Ub`Yb[ ]bYYf]b[ `VUW\_[ fci bX`" `#]bHfcXi VWg`[ YbYFU`Yb[ ]bYYf]b[  
UddfcUWX Yg`UbX`ghi X]Yg`h`Y]f`fY`U]cb`hc`YWc`c[ ]WU`gi ghU]bUV`]m`" `#`h`Y`Wci fgY`mci `UbU`mgY`h`g  
fY`U]cbg\`d`]b`X]ZYfYbhgcW]c!YWc`bca ]WUc`bH] hgZ`X]ZYfYbhgcW]c!YWc`bca ]WUc`bH] hgZ`]bWi X]b[ `W]YgZ`fi fU`  
UbX`fY[ ]cbU`UfYUgZ`UbX`XYj Y`cd]b[ `Wci bh]Yg`" Mci `k ]`UXXfYgg`h`Y`hYbg]cb`VYrk`YYb`j Uf]ci g`Zcfa`g`cZ  
hYVXb]WU`\_bck`YX[ YZ`h`Y`fc`Y`cZ`h`W`bc`c[ m]b`h`Y[ `cVU`YWc`bca mZ`h`Y`fY`U]cb`VYrk`YYb`Yb[ ]bYYf]b[ `UbX  
gi ghU]bUV`Y`XYj Y`cda YbhUbX`h`Y`fc`Y`cZYb[ ]bYYf]b[ `]b`Ybj ]fcba YbH`a UbU[ Ya YbH`Mci `k ]`VY`hU`Yb  
h`fci [ \`j Uf]ci g`WUgY`ghi X]Yg`cZfYU`Ybj ]fcba YbH`dfcV`Ya g`UbX`k ]`VY`YbWci fU[ YX`hc`]XYbh]Znk`YfY  
hYVXbc`c[ ]WU`gc`i h]cbg`UfY`Uddfcdf]UHY`UbX`k`YfY`h`Y`miUFY`]bUddfcdf]UHY`cf`]bUXYei UHY`"9I Wi`g]cbg.`H\]g

## 5ggYgga Ybh

GYY`A ccX`Y`Zcf`XYHJ`YX`]bZcfa U]cb`UVci hUggYgga YbhiUg\_g"

### 5ggYgga YbhiUg\_g`

5ggYgga YbhiUg_	K`Y][` \h	8i`Y`8UH`	Ghi`XYbh`@YUfb]b[ Ci`hWta`Yg`5ggYggYX
DUfh]W]dU]cb`	;%\$	&&#;\$`+#&\$%-`\$(`.```\$`DA	%ž
F`Yj`]Yk`icZF`YUX]b[`g`	`\$	B`ch5dd`]WUV`Y	%ž&ž
;`fci`d`dfc`YVhdfYgYbhiU]cb`	`\$	B`ch5dd`]WUV`Y	%ž&ž`ž{
F`YgYUfW`F`Ydcfh`	`\$	%*`#\$,`#&\$%-`\$(`.```\$`DA	&ž`ž)

### 5ggYgga Ybh8YHJ]`g

5ggYgga Ybh%`DUfh]W]dU]cb

GHUfhXUH.`

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

8YHJ]`g.`%cf`&`WUgg`YI`YfW]gYg`fa`U(`)``\$\$`k`cfXg`UbX`dUfh]W]dU]cb`fcb!W]a`di`g`C`F`cb`]bY`X]gW`gg]cb`dcg]g`fX]g]bW`gh`XYbh]g`cZa`U(`)``\$\$`k`cfXg`dYf`k`YY\_`Zcf`dfYgW]VYX`k`YY\_g

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

:`]Y`X`]f]d`fYdcfh`GYY`A`ccX`Y`Zcf`Z`fhYf`XYHJ]`g"

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

5ggYgga Ybh&.`F`Yj`]Yk`icZF`YUX]b[`g`

GHUfhXUH.`

@Yb[`h.`)``\$\$`k`cfXg`YUW

8YHJ]`g.`G\cfhk`YY\_`mfYj`]Yk`g`cZfYUX]b[`gž`a`U(`)``\$\$`k`cfXg`YUW`Zcf`k`YY\_g`Ug`gY`YVW`X`Vm`gh`XYbh]K`f]h]b`Z`YXVUW\_

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

G\cfhk`YY\_`mfYj`]Yk`g`UfY`Xi`Y`Uh(`da`icb`Hi`YgXUm]b`K`YY\_g`&ž(`UbX`\*`"f]Y">`i`bY`%ž>`i`bY`&)`ž`UbX`>`i`m`-`L`GYY`A`ccX`Y`Zcf`Z`fhYf`XYHJ]`g"

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

5ggYgga Ybh`. ;`fci`d`dfc`YVhdfYgYbhiU]cb

GHUfhXUHY. Bch5dd`WUV`Y

@Yb[ h. " ) `a ]bi HYg

8YHU]`g.; fci d`dfc`YWidfYgYbHU]cb`cb`Ub`Yb[ ]bYYf]b[ `gc`i`hcb`Zcf`Ub`Ybj ]fcb`a`YbHU`dfcV`Ya "A UI " )  
a ]bi HYg`]bWi X]b[ `ei Ygh]cb`h`a`Y`K`f]HYb`UbX`J`YfVU`ZYXVUW`

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

DfYgYbHU]cbg`k ]`VY`]b`WUgg`Xi`f]b[ `K`YY`\_g`-`UbX`%\$`"GYY`A`ccX`Y`Zcf`Z`fh`Yf`XYHU]`g"

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

5ggYgga`Ybh(.`F`YgYUfW`F`Ydcfh

GHUfhXUHY. Bch5dd`WUV`Y

@Yb[ h. " \$\$\$`k`cfXg`fa`UI`E

8YHU]`g.`HYW`bc`c[`miUggYgga`YbhfYdcfz`&)`\$\$`tc`"\$\$\$`k`cfXg`a`UI`]a`i`a`k`f]HYb`ZYXVUW`dfcj`]YXX

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

GYY`A`ccX`Y`Zcf`Z`fh`Yf`XYHU]`g"

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

5 HbXUbW F Yei ]fYa Ybhg

Gh XYbhg UfY ghfc b [ mYbWci fu[ YX hc UHbX U WUggYg UbX fYj ]Yk YWfi fY fYWcfX]b[ g"

7 ci fgY GWYXi Y

[J Yk WUgg ha YhUVY](#)

Hja YhUV Y

8 UHr	HmdY	7 cbhYbh
K YY_% " ' >i bY! '+>i bY	6 YbXYX	<p>hfcXi W]cb. '9b[ ]bYYfg UbX GcWYm'</p> <p>: cf U'' gh XYbhg z Vch ZJW hc ZJW UbX</p> <p>X]ghUbW z cb ]bY UWj ]hYg k ]'' VY ]bh [ fUHX</p> <p>h fci [ \ ci h hY h'fa "'8]ghUbW gh XYbhg k ]'' Yb[ U[ Y</p> <p>j ]U' Zcfi a g UbX j ]fhi U' UHbXUbW ]b WUggYg "7 UgY</p> <p>gh XmUbX d'fc YW VUgYX "YUfb]b[ 'k ]'' ]bfcXi W' _Ym</p> <p>WcbW dhg z Z fh Yf YI d'c fYX h'ci [ \ Wca dYhUbW</p> <p>VUgYX hUg_g UbX ga U'' [ fci d' UWj ]hYg "C b! ]bY</p> <p>k cf_k ]'' Ugc gi ddcfh ZY X UWj ]hYg -'gYY K YY_g)</p> <p>UbX * 'VY'ck "' : i hYf XYhU]g'cb hY ]bh [ fU]cb cZcb!</p> <p>]bY h ]hcb k ]'' VY d'fcj ]YX j ]U'mci f A ccX Y g]h"</p>
K YY_&.%\$>i bY! '%(>i bY	6 YbXYX	B Uhi fU' F Ygci fWg"
K YY_' . '%+>i bY! '&%>i bY	6 YbXYX	7 cbgi a Yf; ccXg"
K YY_(. '&(>i bY! '&,>i bY	6 YbXYX	; i Ygh YWfi fY. '7 cg]b[ 'hY '@ccd"
K YY_) . '%>i m! ') '>i m	C b]bY '5Wj ]m	I VfUb h ZUghfi Wfi fY "H\Y cb! ]bY k cf_ ]bW X Yg d fY dUfU]cb Zcf bYI hk YY_fj ZY X UWj ]m'
K YY_* . ; '>i m! '%&>i m : ]Y Xk cf_		I VfUb h ZUghfi Wfi fY "
K YY_+ . %) '>i m! '%- '>i m	6 YbXYX	; i Ygh @YWfi fY fhVW <ci gY \c X' fi UghY "fi
K YY_ . ; '&&>i m! '&* '>i m	6 YbXYX	9b[ ]bYYf]b[ 'UbX '8Yj Y'cda Ybh'
K YY_- . '&- '>i m! '&5i [ i gh	6 YbXYX	; i Ygh YWfi fY fhVW '5Vcf][ ]bU 'DYfgdYWj Yg"
K YY_%\$. ) '5i [ i gh! '-5i [ i gh	6 YbXYX	

F Ygci fWg

DfYgWf]VYX`F Ygci fWg`

GYY`A ccXY`Zcf`XYHJ]g"

F YWca a YbXYX`F Ygci fWg

GYY`A ccXY`Zcf`XYHJ]g"

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

7ci fgYg`UfY`dYf]cX]WU`mfYj ]Yk YX`UbX`gh`XYbHg`ZrYXVUW`]g`i gYX`hc`]a`dfcj Y`hYa`": YXVUW`]g`  
[ U`hYfYX`Zca`gh`XYbHg`i`g]b[ `a`m9I`dYf]YbW`"Gh`XYbHg`UfY`YbWci`fU[ YX`hc`Wca`d`YH`h`Y]f`gi`fj`Ymg`Vm`  
UW`Ygg]b[ `hY`dYfgcbU`]gYX`k`YV`]b`\_j`]U`hY`A`ccXY`Wci`fgY`g]hY"





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

D`U[ ]Uf]ga `]g`i g]b[ `h`Y`k cfXg`cf]XYUg`cZchYfg`UbX`dfYgYbh]b[ `h`Ya `Ug`mci f`ck b" `hWUb`hU`Y`a Ubm  
Zcfa gžZca `XY`]VYfUh`W`YU]b[ `h`UW]XYbhU`miW`dm]b[ `Zca `U`gci fW`k ]h`ci hUW\_bck `YX[ Ya Ybh`

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

7cdm]b[ .`i g]b[ `h`Y`gUa Y`cf`j Yfmg]a ]Uf`k cfXg`h`h`Y`cf][ ]bU`hI hcf]XYU`k ]h`ci hUW\_bck `YX[ ]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/