



# LING5006

7 i ffYbh=ggi Yg`]b`6`]]b[ i U`]ga

HYfa `Cby` `##`&\$&%

7ci fgY`Cj Yfj ]Yk

GHJZ7cbHJW`8YHU`g

7cbj Ybcfg

B Ua Y	9a U]	5j U]UV]]m	@cW]hcb	D\cbY
5b]_ ]` < Uhcgg	U"\"Uhcgg4 i bgk "YXi "Ui	VmYa U]` Uddc]bha Ybh	A cfj Yb`6fck b &***	\$&`-' , ) , ' ( \$

GWcc``7cbHJW`bZcfa U]hcb

GWcc``cZ<i a Ub]hYg`UbX:@Jb[ i U[ Yg

@cW]hcb. `GWcc``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\*%&`-' , ) :%\*, %

: Ul. `ž\*%&`-' , ) ; +\$)

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

7 ci fgY'8YHJ`g

7 fYX]hDc]bHg '\*`

Gi a a UfmicZ\hY'7 ci fgY

H\]g`Wci fgY'k ]`YbUVY'mci`hc`]bj Ygh[ UH'`hY'bUhi fY'cZV']b[ i U]ga`VmiZcW]g]b[ `cb`\ck`]hYj`c]j Yg`UbX  
\ck`]h]g'a U]bH]bYX']b`Ub']bWfYUg]b[ `m[ `cVU']gYX'k`cfX" `#k ]`YbUVY'mci`hc`i bXYfgtUbX'hUhV']b[ i U]ga  
W]b`VY`gh`X]YX'UhUb']bX]j ]Xi U`Yj Y`fZcW`g]b[ `cb`dgm\Xc`]b[ i ]gh]VZ`bYi`fc`]b[ i ]gh]VZ`UbX`Wc`[ b]h]j`Y  
UgdYWg]t`Vi`hU'gc`UhU'gcW]YH]`Yj Y`fZcW`g]b[ `cb`gcW]c`c[ ]W]Z']bHfW`hi`fU`z`UbX`]XYc`c[ ]W]`Xca`U]bg]t`  
Mci`k`]`Uj`Y`hY`cddcfh`b]h]m]c`YI`d`cfY`U`fUb[ Y`cZ`hd]W]k`]h]b`hY`gh`XmicZV']b[ i U]ga`z`]bW]X]b[ .`\ck  
Wc`a`a`i`b]h]Yg`UbX`]bX]j ]Xi`U`g'a`U`Y`Ub[ i U[ Y`Wc]W]gZ`\ck`V']b[ i U]ga`XYj`Y`cdg`hY`VfU]bZ`hY  
UXj`UbH] [ Yg`cZV']b[ i U]ga`Zc`f`W]X]fYb]g]XYj`Y`cda`Yb]z`UbX`hY`gcW]U`VYbY]Z]hg`cZgi`ddcfh]b[ `a`]bcf]hm  
`Ub[ i U[ Yg"

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

%`9I`d`U]b`VUg]W]Wc`bW]d]i`U`UbX`Ya`d]f]W]`]ggi`Yg`]b`hY`gh`XmicZV']b[ i U]ga`"  
&`7`f]h]W]m]Yj`U`i`UH`W`ffYbhUXj`UbV]g`]b`hY`gh`XmicZV']b[ i U]ga`k`]h`dUfh]W`Uf`fYZYfYbW`hc  
`]b[ i ]gh]VZ`gcW]c`]b[ i ]gh]VZ`UbX`dgm\Xc`]b[ i ]gh]WUgdYW]g"  
'`5`ggYgg`W`ffYbh]ggi`Yg`]b`hY`UbU`mg]g`cZV']b[ i U`XYj`Y`cda`Yb]h`  
(`8`YZf`bX`cf`W]U`Yb[ Y`Ub[ i U[ Y`dc`]W]g`cb`V']b[ i U`XYj`Y`cda`Yb]h`

HYUW\]b[ `GhfUH[ ]Yg`

7`UggYg`k`]`h]U`Y`U`k`cf`\_g`cd`Zcfa`UH`K` \]Y`hYfY`k`]`VY`gca`Y`g`lc`fh]b]f`cXi`W]c`bg`hc`hY`hY`c`f]Yg`]b`U  
`YW]i`fY`Zcfa`U]z`a`cgh]a`Y`k`]`VY`gdYb]h]c`b]b]h]fUW]j`Y`[`fci`d`X]gW`gg]c`bg`Wc`bg]XYf]b[ `\_Ym]Wc`bW]d]hg]z`]ggi`Yg  
UbX`d`fcV`Ya`g`"Gh`XYb]g`k`]`VY`YI`dYW]X`hc`Xc`gYh]fYUX]b[ `h]Ug`\_k`YY`\_m]UbX`Xc`U`%`\$`a`]bi`h`W]Ugg  
d]fYgYb]H]c]b"

## 5ggYgga Ybh

Gh XYbfg`UFY`fYei`fYX`hc`i`gY`5D5`fYZfYbW]b[ `Zcf`U`h`Y]f`Ugg][`ba`Ybfg`"K`cfX`"Yb[ `h`XcYg`bch]bWl`XY`h`Y`]ghcZfYZfYbW]g"

## 5ggYgga YbhHUg\_g

5ggYgga YbhHUg_	K`Y][`h	8i`Y`8UH`	Gh`XYbh`@YUfb]b[`Ci`hW`a`Yg`5ggYggYX
7`Ugg`hYgh`	`\$i	%`#`\$`#&`\$&`%`\$(`.`\$\$`DA	%
DfYgYbHh]cb`	&\$i	k`YY`_`mfcgHf`	`z`(`
F`YgYUfW`YggUm`	)`\$i	`\$`#`\$(`#&`\$&`%`\$(`.`\$\$`DA	&`z`'`z`(`

## 5ggYgga Ybh8YHJ]`g

5ggYgga Ybh%`7`Ugg`hYgh`

8YHJ]`g.

H`Yghf%`f`l`c`b`h`c`d]Wg`W`j`YfYX`]b`h`Y`W`e`i`fgY`"8Y`]j`YfYX`c`b`]bY`"`#X]j`]Xi`U`ZYXVUW`\_`k`]`VY`d`f`c`j`]XYX`"

5ggYgga Ybh&`DfYgYbHh]cb`

GhUfhXUH`Y`Bch5dd]WUV`Y

8YHJ]`g.

5`W`Ugg`d`f`Y`g`Y`b`H`h`]`c`b`f`%`\$`a`]b`i`h`Y`g`l`V`U`g`Y`X`c`b`g`Y`h`f`Y`U`X`]b`[`g`U`b`X`h`c`d]Wg`W`j`YfYX`]b`h`Y`W`e`i`fgY`"`#X]j`]Xi`U`ZYXVUW`\_`k`]`VY`d`f`c`j`]XYX`"

Hi`fb]h]b`g`Y`h]b[`. `H`h]g`]g`b`c`h`U`Hi`fb]h]b`Ugg][`ba`Ybh`

5ggYgga Ybh`.`F`YgYUfW`YggUm`

GhUfhXUH`Y`Bch5dd]WUV`Y

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

8YHJ]`g.

5`f`Y`g`Y`U`f`W`Y`g`g`U`m`f`U`d`d`f`c`l`]a`U`h`Y`m`&`\$`\$`\$`k`cfXg`l`c`b`U`b`m`c`Z`h`Y`a`U`c`f`h`c`d]Wg`W`j`YfYX`]b`h`Y`W`e`i`fgY`"`#X]j`]Xi`U`ZYXVUW`\_`k`]`VY`d`f`c`j`]XYX`"H`h]g`h`Y`Z]b`U`UggYgga`YbhZcf`U`h`Y`b`X`U`b`W`d`i`f`d`c`g`Y`g`"

Gi`Va`]gg]c`b`b`c`h`Y`g.`gi`Va`]h`c`b`]bY`





5df]		7@5GG9G`G7<98I @98"
K YY_`%\$.`%` 5df]`!`&` 5df]	F YUX]b[	F YUX]b[ `k YY_`!`BC `7@5GG9G`G7<98I @98"





Gi Va ]gg]cb 'cZ5ggYgga YbhiHUg\_g

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

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

D`U[ ]Uf]ga ]g`i g]b[ `hY`k cfXg`cf]XYUg`cZcH.Yfg`UbX`dFYgYbh]b[ `hYa `Ug`mci f`ck b" #WUb`hU\_Y`a Ubm  
Zcfa gZ`Zca `XY`]VYfUH`VX.YUf]b[ `hc`UWV]XYbhU`mWc`dm]b[ `Zca `U`gci fW`k ]h`ci hUW\_bck `YX[ Ya Ybh`

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

7 cdm]b[ . `i g]b[ `hY`gUa Y`cf`j Yfmg]a ]Uf`k cfXg`hc`hY`cf][ ]bU`hY`hcf]XYU`k ]h`ci 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[ YgZ`UfhUbX`XYg][ b`dfc`YWgZ`Ug`k Y`Ug  
dfYgYbhU]cbg`k \YfY`gca YcbY`dFYgYbhg`Ubch`Yf`g]XYUg`cf`k cfXg`k ]h`ci hWYX]h`

#Uddfcdf]UH`dUfUd`fUg]b[ . `7 \Ub[ ]b[ `U`ZYk`k cfXg`UbX`d`fUgYg`k \]Y`a cghmfYH]b]b[ `hY`cf][ ]bU`  
ghf`i W`fY`UbX`#cf`dfc[ fYgg]cb`cZ]XYUg`cZ`hY`cf][ ]bU`Z`UbX`]bZcfa Uf]cb`k ]h`ci hUW\_bck `YX[ Ya Ybh`H\]g`U`gc  
Udd`]Yg]b`dfYgYbhU]cbg`k \YfY`gca YcbY`dUfUd`fUgYg`Ubch`Yf`g]XYUg`cf`k cfXg`k ]h`ci hWYX]h`UbX`hc  
d]YV]b[ `hc[ Yh`Yf`ei chYg`UbX`dUfUd`fUgYg]bhc`U`bYk`k \c`Yz`k ]h`ci hUddfcdf]UH`fYZYfYbW]b[ "

7 c`i g]cb.`k cf\_]b[ `k ]h`ch`Yfg`Vi hdUgg]b[ `cZ`hY`k cf\_`Ug`U`dYfgcb`g`]bX]j ]Xi U`k cf\_"7 c`i g]cb`U`gc  
]bWi XYg`dfcj ]X]b[ `mci f`k cf\_`hc`Ubch`Yf`gh`XYbhVYZc`fY`hY`Xi Y`XUH`Zc`f`Zc`f`hY`di fdcgY`cZ`hYa  
d`U[ ]Uf]g]b[ `Uh`Ubmi]a Yz`dUm]b[ `Ubch`Yf`dYfgcb`hc`dYfZcfa `Ub`UWUXYa ]WfUg\_`Z`gh`U`]b[ `cf`UW`i ]f]b[  
Ubch`Yf`dYfgcb`g`UWUXYa ]Wk cf\_`UbX`Wc`dm]b[ ]h`c`ZYf]b[ `hc`W`a d`Yh`Ubch`Yf`dYfgcb`g`k cf\_`cf`gYY\_]b[

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

## 5 WUXYa ]WbZcfa Uh]cb

: cfYggYbh]U`gh XYbh]bZcfa Uh]cb fY`Uh]b[ `tc.

- fYei Yghg`Zcf`YI hYbg]cb/
- `UhY`gi Va ]gg]cbg`[ i ]XY`]bYg/
- fYj ]Yk `cZa Uf\_g/
- I BGK `<YU`h`UbX`GUZYmhc`]WYg/
- YI Ua ]bUh]cb`dfcWYXi fYg/
- gdYW]U`Wcbg]XYfUh]cb`]b`hY`Yj Ybhcz]`bYgg`cf`a ]gUXj Ybh fY/
- gh XYbhYei ]mUbX`X]gUV`]m/
- UbX`chYf`YggYbh]U`UWUXYa ]W]bZcfa Uh]cbz`gYY

[\ftdg.#k k k "Uftg"i bgk "YXi "Ui #W ffYbh\]gh XYbh\]UWUXYa \]W\]bZcfa Uh\]cb#dfchWc`g!\[ i \]XY`\]bYg#](#)

⇒ U[ Y`7fYX]h

[D\]Wi fY`hU`Yb`VmWci fgY`Wcbj Ybcf](#)

7F ⇒ CG

7F ⇒ CG`Dfcj ]XYf`7cXY.`\$\$\$- ;

5W\_bck`YX[ Ya Ybhcz7ci bhfm

K Y`UW\_bck`YX[ Y`hY`6YXY[ U`dYcd`Y`k`c`UfY`hY`fUX]h]cbU`W`ghcX]Ubg`cZ`hY`UbXg`cb`k`]\W`I`BGK`  
?Ybg]b[ hcb`W]a`di`g`]g`cW]hYX"