



ARTS3124

7c`UVcfUhj Y'DYfZcfa UbW' A U_]b[

HYfa 'H\fYY`##`&\$%-



7ci fgY'8YHJ]`g

7fYX]hDc]bqg`*`

Gi a a UfmicZhY'7ci fgY

Gi VYWh5fYU. FZWSfdWS` V BWDad_ S` UWE fgV[W

7c`UVcfUhfj Y'DYfZcfa UbW`A U_]b[`]bj]H'g'mci `hc`k cf_`hc[YhYf`k]h`chYfg'UWfcgg'U`fUb[Y`cZX]ZYfYbh
WYUhfj Y`Zcfa g`hc`XYj Y`cd`Ub`cf][]bU`&\$!a]bi h`ga U`! [fci d`dYfZcfa UbW`Zk \]W`k]`Uj Y`U`di V`]W
dfYgYbHh]cb`UhH`Y`YbX`cZhf`fa `gi ddcfH`X`Vmh`Y`7fYUhfj Y`DfUW]W`@UV``Mci `k]`VY`YX`h`fci [\`k`YY`_m
k cf_g\cdg`h`UhW`U`Yb[Y`h`Y`ZJa]]Uf`UbX`Yi dUbX`mci f`]a U[]bUhf]cb``Mci `k]`YUfb`bch`gh`h`fci [\`
hU`_]b[`UVci hia U_]b[`ZVi h`h`fci [\`UW] Y`mia U_]b[/UbX`]b`Xc]b[`gc`mci `k]`gi fdf]gY`mci fgY`Zk]h`k`Uh
mci `UfY`WdU`V`cZXFYUa]b[`i d``A`cgh]a dcfh`Ubh`m`mci `k]`k cf_`Wc`UVcfUhfj Y`mik]h`chYfg`Ug`U`gfYb[h
UbX`fYgci fW`ZVf]b[]b[`mci f`X]j YfgY`ghcf]Yg`za Ya cf]Yg`zei Ygh`cbg`z`UbX`dUgg]cbg]bhc`fY`Uhf]cb`k]h`YUW
chYf`z`UbX`YUfb]b[`ghf`W`fYg`UbX`Zcfa g`h`Uhj U`i Y`ci f`X]ZYfYbW`g`Ug`k Y`WYUhf`U`g`UfYX`h`YUhf]W`
`Ub[i U[Y``H\]g`Wc`i fgY`XcYg`bchUggi a Y`UbmidUhf]W`Uf_]bX`cZdYfZcfa UbW`Yi dYf]YbW`z`UbX`]g`gi]hU`Y
Zc`f`U`k` \c`UfY`]bh`fYgh`X`]b`Yi dUbX]b[`h`Y]f`WYUhf]]mUbX`XYj Y`cd]b[`Wc`UVcfUhfj Y`k cf_]b[`g_]`g`h`UhWb
VY`Udd`]YX`hc`U`fUb[Y`cZ`Wc`b`h`Y`hg"

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

%` 5dd`miUddfcdf]Uhf`h`YcfYh]W`UbX`d`mg]W`fYgYUfW`dfUW]W`g`]b`h`Y`WYUhf]cb`cZdYfZcfa UbW`
&` 9j U`i Uhf`UbX`Wc`bgf] W]j Y`mW]h`ei Y`a Uhf]U` [YbYfUhf]X`]bX]]Xi U`miUbX`]b[fci dg`Ug`dUfhcZ`h`Y
WYUhfj Y`dfcW`gg
'` " K`cf_`YZZW]j Y`m]b`ga U`` [fci dg`z`XYj Y`cd]b[`Wc`UVcfUhfj Y`g_]`g`UbX`gY`Z`fY`]UbW`]b`d`Ubb]b[`UbX
Yi YW`h`cb

HYUW]b[`GhfUhf]]Yg`

H\]g`Wc`i fgY`Wca V]bYg`Yi dcgi fY`hc`X]gh]bW]j Y`Uhf]gh]WdfUW]W`g`UbX`Wc`bW`dhg`k]h`Yi dYf]Yb]U``YUfb]b[
h`fci [\`gc`c`UbX`Wc`UVcfUhfj Y`a U_]b[" `h`h`Y`Z]fghdUfhcZ`h`Y`a`cXi`Y`z`h`Y`k`YY`_mgYgg]cbg`U`h`fbUhf
VY`h`YYb`dfYgYbHh]cb`cZa`Uhf]U`UbX` [i]XYX`Yi YfW]gYg`Zca`h`Y`Wc`i fgY`Wc`bj YbYf`z`UbX`]bX]j]Xi U`gc`c`
dYfZcfa UbW`g`mci `a U_Y`]b`cfXYf`hc`Yb[U[Y`k]h`h`Y`Zcfa g`UbX`]XYUg`k` \]W`mci `X]gWc`j Yf` `h`h`Y`gYWc`bX
dUfhcZ`h`Y`a`cXi`Y`z`mci `k]`k cf_]b`ga U`` [fci dg`hc`XYj]gY`Ub`cf][]bU`dYfZcfa UbW`Zk]h`fY[i `Uf
XfUa`Uhf]]W`z`dfUW]W`z`UbX`Wc`bW`dh`U` [i]XUbW`Zca`h`Y`Wc`i fgY`Wc`bj YbYf`"

6i]X]b[`cb`]bX]j]Xi U`Wc`bhf]Vi h`cbg`UbX`]bh`fYgh`z`mci `UfY`gi ddcfH`X`]b`Z]bX]b[`WYUhfj Y`a`cXYg`cZ
Wc`UVcfUhf]cb`—`h`Uh]g`z`mci `k]`bchicb`m`Wc`UVcfUhf]`hc`a`U_Y`mci f`Uf`z`Vi`h`k`Y`a` [\`h`U`gc`h`]b`UVci`h`h`Y
UfhcZ`Wc`UVcfUhf]cb`]hgY`Z` `h`]g`W]gY`z`mci f`Wc`UVcfUhf]cb`k]`W`a`]bUhf`]b`U`di`V`]WdYfZcfa UbW`VY`Zc`fY`U
]j Y`Ui`X]YbW`z`Vi`h`h`Y`h`]b_]b[`UbX`Yi dYf]YbW`k]h`Wc`UVcfUhf]cb`Wb`VY`Udd`]YX`]b`a`Ubmich`Yf`Wc`b`h`Y`hg"

5ggYgga Ybh

H\jg'Wci FgYjg'Wci Jgg'nci JcYg'nc Xrc'UHYb

- U'HYWb]WJ`F Y\YUfgU`rc'V
- U'8fYgg'F Y\YUfgU`ž) !- da ž
A mYfg

Hi fb]hb'gYhb[. H\]g'Ugg][ba Ybh]g'gi Va]hYX'h'fci [\ 'Hi fb]hb'UbX'ghi XYbhg'WUb'gYY'Hi fb]hb'g)a]Uf]hm
fYdcftg"

5ggYgga Ybh' .; fci d'dYfZcfa UbW

GHUfhXUHY'.

8YHU]`g. :]bU`[fci d'dYfZcfa UbW'(&) | [fci d'a Uf_Ž'&) | `]bX]j]Xi U`Wcbf]Vi h]cb"Q

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

F Ygci fWg

DfYgWf]VYX`F Ygci fWg`

H\YfY`k]`VY`g\cfhVfYU_g`Uhgj]hUV`Y`dc]bhg`Xi`f]b[`YUWX`k`YY`_`m`WUgg"i`gY`cZd\cbYg`UbX`Udhdg`k]`
bchVY`dYfa]hYX`Xi`f]b[`WUgg" `6f]b[`hc`YUWX`WUgg. `Vc`hY`cZk`Uhf`UbX`U`gbUW`z`W`a`Zc`f`hUV`Y`Wc`h`Yg`Zc`f`
a`cj`Ya`Yb`z`UbX`U`bch`Vcc`_`UbX`dYb"

F YWca a YbXYX`F Ygci fWg

D`YUgY`gYY`@Y[`Ubhc`Zc`f`h`Y`]ghcZfYWca a YbXYX`hY`hg`fY`U`h`X`hc`YUWX`k`YY`_`f`h`Ya`Y`z`k` \]W`k`]`VY`i`gYZ`
Zc`f`h`Y`WUgg`W]h`ei`Yg"

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

H\]g`Wci`fgY`k`]`VY`Yj`U`i`U`h`X`h`fci` [\ `U`A`m`9I`dYf]YbW`gi`fj`Ym`Uh`h`Y`YbX`c`Z`h`Y`Wci`fgY"

Gi Va]gg]cb`cZ5ggYgga YbhHUg_g

Gi Va]gg]cb`cZ5ggYgga YbhHUg_g

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

≠mci`YbWci bHYf`U`dfcV`Ya`k`Yb`U`HYa`dh]b[`hc`gi`Va`]hmc`i`f`Ugg][`ba`Ybh`h`fci`[`\`Hi`fb]h]b`z`d`YUgY`
HY`Yd`cbY`9I`HYfbU`Gi`ddcfhcb`-`,`)`'`'`'`%cf`Ya`U]`h`Ya`cb`YI`HYfbU`HY`hgi`ddcfh4`i`bgk`"YXi`"Ui`"Gi`ddcfh`
`ci`fg`UfY`,`.\$\$Ua`-`%\$.\$\$da`cb`k`YY`XUmg`UbX`-`.\$\$Ua`-`).\$\$da`cb`k`YY`YbXg`fI`*)`XUmg`U`mY`UfL`≠mci`
UfY`i`bUV`Y`hc`gi`Va`]hmc`i`f`Ugg][`ba`YbhXi`Y`hc`U`ZU`ihk`]h`Hi`fb]h]b`mci`a`Um`Udd`mi`Zc`f`Ub`YI`HYbg]cb`z`Vi`hmc`i`
a`i`gh`fY`hU]b`mci`f`h]W`Yhbi`a`VYf`Zca`9I`HYfbU`Gi`ddcfhfU`cb[`k`]h`Ubmc`h`Yf`fY`Yj`UbhXcW`a`Yb`hg`L`hc`
]bWi`XY`Ug`Yj`]XYbW`hc`gi`ddcfhmc`i`f`YI`HYbg]cb`Udd`]W]h]cb"≠mci`Ya`U]`9I`HYfbU`Gi`ddcfhmc`i`k`]"`

5 WUXYa]W<c bYghmiUbX`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" `hWUb`hU`Y`a Ubm
Zcfa gž`Zca `XY`]VYfUHY`WXYU]b[`hc`UWV]XYbhU`mW`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[`WUHY`[cf]Yg.

7 cdm]b[.`i g]b[`hY`gUa Y`cf`j Yfmg]a]Uf`k cfXg`hc`hY`cf][]bU`hYI 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[Ygž`UfhUbX`XYg][b`dfc`YWgž`Ug`k Y`Ug`
dfYgYbhU]cbg`k \YfY`gca YcbY`dfYgYbh]g`UbchYf`g`]XYUg`cf`k cfXg`k]h`ci hW`YX]h`

hUddfcdf]UHY`dUfUd`fUg]b[.`7`Ub[]b[`U`ZYk`k cfXg`UbX`d`fUgYg`k`Y`a cghmiFYhU]b]b[`hY`cf][]bU`
ghfi W`i fY`UbX`#`f`dfc[fYgg]cb`cZ]XYUg`cZ`hY`cf][]bU`ž`UbX`]bZcfa U]cb`k]h`ci hUW_bck`YX[Ya Ybh`H\]g`U`gc`
Udd`]Yg`]b`dfYgYbhU]cbg`k \YfY`gca YcbY`dUfUd`fUgYg`UbchYf`g`]XYUg`cf`k cfXg`k]h`ci hW`YX]hU`bX`hc`
d]YW]b[`hc[YhYf`ei chYg`UbX`dUfUd`fUgYg`]bhc`U`bYk`k \c`Yž`k]h`ci hUddfcdf]UHY`fYZYfYbW]b["

7 c`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_]7 c`i g]cb`U`gc`
]bWi XYg`dfcj]X]b[`mci f`k cf_]hc`UbchYf`gh`XYbhVYZc`fY`hY`Xi Y`XUHYž`cf`Zc`f`hY`di fdcgY`cZ`hY`a

- i bXYfghUbx'mci f'f][\hg'UbX'fYgdcbg]V]h]Yg'Ug'U'gh XYbhUhl BGK
- VY'Uk UfY'cZd'U[]Uf]ga ž'Wcdmf][\hžI BGK 'Gh XYbh7cXY'cZ7cbXi WñUbX'5WwdfUV'Y'I gY'cZ I BGK '⇒H'F Ygci fWg'Dc`]Wñ
- VY'Uk UfY'cZñY'ghUbXUfXg'cZVY\Uj]ci f'YI dYWñX'cZYj Yfmcby`]b'hY'I BGK 'Wca a i b]m
- `cWñH'gYfj]Wg'UbX']bZcfa Uhcb'UVci hl BGK 'UbX'I BGK '@]VfUfm

Gca Y'cZñYgY'UfYUg'k]`VY'ZJa]]Uf'hc'mci žcñYfg'k]`VY'byk " "; U]b]b['U'gc`X'i bXYfghUbx]b['cZU`ñY fY'UH'X'UgdYWñ'cZ9@G9'k]`ñY'd'mci 'a U_Y'hY'a cghcZmci f'gh X]Yg'Uhl BGK ""

[\hhd.##ji V'YWñ'i \]XYg" \]VfUfm'i bgk "YXi "Ui #' \]gY#JVci hY`\]gY](#)

5 WUXYa]WbZcfa Uhcb`

: cfYggYbh]U`ghi XYbh]bZcfa Uhcb`fY`Uh]b[`hc.

- fYei Yghg`ZcfYI hYbg]cb/
- `UhY`gi Va]gg]cbg`[i]XY`]bYg/
- fYj]Yk`cZa Uf_g/
- I BGK`<YU`h`UbX`GUZY`midc`]WYg/
- YI Ua]bUh]cb`dfcVWXi fYg/
- gdYW]U`Vc]bg]XYfUh]cb`]b`hY`Yj Ybhcz]`bYgg`cf`a]gUXj Ybh fY/
- ghi XYbhYei]hmUbX`X]gUV`]`hm/
- UbX`chYfYggYbh]U`UWUXYa]W]bZcfa Uh]cbz`gYY

[\hfg.#k k k "Ufng"i bgk "YXi "Ui #W ffYbhghi XYbh\]bZcfa Uhcb`dfcVc`g!\[i \]XY`\]bYg#](#)

⇒ U[Y`7 fYX]h

⇒ U[Y`Zca`&\$%`di V`]Wg\Uf]b[ž;`X` [fWH[W`e"D\cfc`Vm<Y]Xfi b`@O\f"

7F ⇒ CG

7F ⇒ CG`Dfcj]XYf`7cXY.`\$\$\$- ;