



# ARTS3510

5Xj UbWX'; Yfa Ub'5

HYfa 'H\fYY'##'&\$&\$

7ci fgY`Cj Yfj JYk

GhUZZ)cbHJWk8(YHJhg

k

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7 ci fgY'8YHJ`g

7 fYX]hDc]bng \*`

Gi a a UfmicZ\hY'7 ci fgY

h`h]g`Vci fgY'mci`k`j`Vcbgc]XUHY`UbX`YI`HYbX`mci`f`g\_]`g`b`]ghYb]b[ `hc`z`gdYU\_]b[ `z`fYUX]b[ `UbX`k`f]h]b[  
; Yfa Ubz`k`h`U`X]gh]bVhZcW`g`cb; Yfa Ub`gcWY`hmiUbX`W`h`fY`"@YUfb]b[ `UW]j`h]Yg`]bW`i`XY`UbU`mg]b[  
Vca`d`YI`h`I`hg`cb`VcbhYa`dcfUfmitcd]Wg/\c`X]b[ `X]gW`gg]cbg`cb`dfYdUFYX`gi`V`Y`Wg`k`h`Z`ck`gh`XYbngz`  
UbX`Vca`a`i`b]W]h]b[ `cb`U`fUb[ `Y`cZgdYWZ]YX`gi`V`Y`Wg`fY`U]h]b[ `hc`]ggi`Yg`cZ`h`Y`Yj`YfmXUmVi`hU`gc`hc`  
VfcUXYf`gcW]U`z`dc`]h]W]z`UbX`W`h`fU`ei`Ygh]cbg`"Mci`k`j`U`gc`YI`dUbX`UbX`\cbY`ja`dcfUfbighi`Xmig\_]`g`  
gi`W`Ug`W`ccg]b[ `Uddfcdf]UHY`YUfb]b[ `ghfUHY[ `]Yg`za`cb]hc]f]b[ `UbX`UXj`UbV]b[ `mci`f`ck`b`dfc[ `fYgg`"

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

%`5bU`mgY`Uf[ `i`a`Ybng`]b`h`I`hg`XYU`]b[ `k`h`VcbhYa`dcfUfmidfcV`Ya`g`h`UhUfY`fY`Yj`Ubhlc`  
; Yfa`Ubcd`l`cbY`Vca`a`i`b]h]Yg`"  
&`8YVUH`cb`dfYdUFYX`gi`V`Y`Wg`]b]; Yfa`Ub`k`h`U`XY[ `fY`cZ`Zi`YbWmUbX`gdc]b]UbY]m`  
`" `DfcXi`W`WYUfz`XYHJ]YX`k`f]h]b`UbX`gdc\_]b`X]gW`gg]cbg`cb`U`k`]XY`fUb[ `Y`cZ`gi`V`Y`Wg`i`g]b[  
`Y`Z`Y`W]j`Y`[ `fUa`a`U]h]W]`ghf`i`Vh`fYg`UbX`Uddfcdf]UHY`j`cW]Vi`Ufm`  
( `GY`Za`cb]hc]f`YUfb]b[ `dfc[ `fYgg`UbX`]XYbh]ZmUfYUg`]b`b`Y`X`cZ]a`dfcj`Ya`YbhUbX`#`f`fYj`Yk`"  
)`=XYbh]ZmUbX`W`ccgY`gi`h]U`V`Y`YUfb]b[ `ghfUHY[ `]Yg`hc`Vcb]h]bi`U`m`Y`b`l`UbW`UbX`YI`dUbX`U`Vci`]fYX`  
g\_]`g`"

HYUWX]b[ `GhfUHY[ `]Yg`

F`U]h]cbU`Y`Zc`f`h`Y`h`W`i`g]cb`cZ7`cbh]bhUbX`HYUWX]b[ `5ddfcUWX

5Xj`UbW`X; Yfa`Ub`5`]g`XYg][ `bYX`Zc`f`gh`XYbng`k`h`U`X]`UbW`X`Yj`Y`cZ; Yfa`Ub`Ub[ `i`U[ `Y`dfcZ]W]YbWmUbX`  
Zc`fa`g`dUfmcZ`h`Y`V`fY`Ub[ `i`U[ `Y`dfc[ `fUa`\_]b]; Yfa`Ub`G`h`X]Yg`" `h`g`Y`fj`Yg`Ug`h`Y`H`]fX`M`Uf#` `]fgh]h`fa`  
Vci`fgY`]b`h`Y`h`f`c`Xi`V`c`fm`G`f`Y`Ua` `UbX`h`Y`G`Y`V`b`X`M`Uf#` `]fgh]h`fa` `Vci`fgY`]b`h`Y`h`h`fa`YX]UHY`G`f`Y`Ua`" `h`  
U`gc`g`Y`fj`Yg`Ug`h`Y`M`Uf`%`Ybhf]m]c`gh`XYbng`k`h`Y`ei`]j`U`Y`bh`\_`bck`YX[ `Y`cZ`h`h`fa`YX]UHY; Yfa`Ub`6`" `h`  
Vcbgc]XUHY`g`UbX`YI`HYbXg`g\_]`g`b`]ghYb]b[ `hc`z`gdYU\_]b[ `z`fYUX]b[ `UbX`k`f]h]b[ ; Yfa`Ubz`k`h`U`X]gh]bVh`  
ZcW`g`cb`h`Y`W`h`fU`UbX`dc`]h]W`]\`ghc]fmcZa`cXYfb]XUm; Yfa`Ubm]@UbXYg\_]bXYO`H`Y`h`c`d]Wg`g`Y`W`Y`X`Zc`f`  
h`Y`Vci`fgY`j`Ufm]Zca`m`Uf`hc`m`Uf`F`Yj`Yk`g`cZ[ `fUa`a`Uf`UbX`k`f]h]b[ `g\_]`g`k`j`V`Y`VcbXi`W`Y`X`h`fci[ `l`ci`h`  
h`Y`h`fa`"

HYUWX]b[ `GhfUHY[ `]Yg`

H`Y`Ub[ `i`U[ `Y`cZ]bg]h] W]cb`]g`d`fY`Xca`]b`Ub]h]m; Yfa`Ub`fk`h`h`Y`YI`W`d]h]cb`cZ`gca`Y`YI`d`Ub]h]cb`cZ`  
[ `fUa`a`U]h]W]`Z`Y`U`h`fYg`E`gc`h`U`h]gh`XYbng`XYj`Y`cd`h`Y`f`]ghYb]b[ `g\_]`g`"@Y`W`i`fY`Vcb]h]bh]g`gd`]h`V`Y`h`Y`Y`b`  
fYj`Yk`]b[ `]`fUa`a`Uf`UbX`h`Y`d`fY`g`Y`b]h]cb`cZ`W`h`fU`a`U`h`f]U`V`W`j`Y`fYX`]b`h`Y`Vci`fgY`" `H`Y`h`h`c`f]U`g`dfcj`]XY`  
YI`h`bg]j`Y`c`dd`c`f`h`b]h]Yg`hc`]ghYb`hc`z`fYUX`z`gdYU\_]`UbX`k`f]h]b]; Yfa`Ub`"7`Ugg]fcca`X]gW`gg]cbg]b]; Yfa`Ub`  
dfcj`]XY[ `fUa`a`Uf`UbX`j`cW]Vi`Ufm]c`XYj`Y`cd`h`Y`a`Yg`fY`Yj`Ubhlc`h`Y; Yfa`Ub]gdYU\_]b[ `gcW]h]Yg`cZ`  
9i`fcdY`UbX`dfcj`]XY`c`dd`c`f`h`b]h]Yg`Zc`f`gh`XYbng`hc`YI`dfYgg`h`Y`a`g`Y`j`Yg`]b`fY`U]h]cb`hc`h`Y]f`ck`b`  
VUW\_]`fci`bXg`UbX`YI`dYf]YbW]g`UbX`k`h`fY[ `UfX`hc`h`Y]f`gcW]c!W`h`fU`Y`bj`]f`c`ba`Y`b`h`G`h`XYbng`  
Vca`a`i`b]W]h]b]Zc`fa`U]h]cbz`]XYUg`UbX`Uf[ `i`a`Ybng`Vcb`c`fU`m`UbX`]b`k`f]h]b[ " `H`Y`m[ `U`h`Y`f`UbX`dfcW]gg`  
]bZc`fa`U]h]cb`Zc`a`U`j`Uf]Y`m]cZ`d`Ud`Y`f`z`U`i`X]c]j`]gi`U`UbX`Y`Y`W`f`cb]W`gci`f`W`g`" `H`Y`mi`g`Y`#`Y`Z`Y`W]j`Y`m`V`ch`U`g`U`  
a`Y`Ub]g`cZ`Vca`a`i`b]W]h]cb`UbX`Ug`Ub`U]X`hc`Y`Ufb]b[ `Ug`k`Y`U`g`hc`XYa`cbghfUHY`gca`Y`UV`]m]Ug`Ub`  
]bXYdYbXYbh`YUfbYf`

# 5ggYgga Ybh

## 5ggYgga YbhHUg\_g`

5ggYgga YbhHUg_	K Y][ \h	8i Y'8UH	Gh XYbh@YUfb]b[ Ci hWta Yg'5ggYggYX
Dcfhzc`]c`	) \$i	- 'CWV' '* 'Bcj	%z&z ž( ž)
HYgh	' \$i	%Bcj	%z ž(
GdYU_]b[ '5ggYgga Ybh	&\$i	% 'Bcj	%z&z

## 5ggYgga Ybh8YHU]`g

### 5ggYgga Ybh% 'Dcfhzc`]c`

GHUfhXUH. 'Bch5dd`]WVY

@Yb[ h. '%\$a bg'zcfYUWX 'dUfh

8YHU]`g.

Dcfhzc`]c`Wcbg]ghcZtk c'dUfhg'k \]WX 'UFY'gi Va ]HYX'cb'hY'@A G'cj Yf'hY'Wti fgY'cZhY'hYfa "'9UWX 'dUfhk ]` fYei ]fY'WU"'&\$a bg'k cf\_z]bW' X]b[ 'g\cfhUbgk Yfza i 'hd'Y'Wc]W'UbX'cdYb!YbXYX'ei Ygh]cbgž'g\cfh k f]h]b[ 'HUg\_g'UbX'fYZYW]cb'cb'gh XYbhgfYUfb]b[ 'bYYXg'UbX'dfc[ fYgg"

: YYXVUW\_c'b'YUWX 'dUfhj ]U'a Uf\_]b[ 'fi Vf]Wk ]h ]bX] ]Xi U'Wta a Ybhg"

## 5ggYgga Ybh& 'HYgh

GHUfhXUH. 'Bch5dd`]WVY

@Yb[ h. '\* \$a bg

8YHU]`g.

H\]g'hYghk ]`fWU"'\* \$'a ]bi hYgk'k ]`Wcj Yf[ fUa a Ufz`]ghYb]b[ 'UbX'fYUX]b[ 'Wta dfY\Ybg]cb'Ug'k Y`Ug k f]h]b[ "

: YYXVUW\_] ]U[ 'YbYfU'WUgg'X]gW'gg]cb"'A Uf\_YX'hYghg'Uj ]U]UV'Y'zcf'gh XYbhg'hc`cc\_'UH"

## 5ggYgga Ybh' . 'GdYU\_]b[ '5ggYgga Ybh

GHUfhXUH. 'Bch5dd`]WVY

@Yb[ h. '+!, a bg'dYf'gh XYbh[ fci d

8YHU]`g.



5 hYbXUbW F Yei ]fYa Ybhg

Gh XYbhg UFY gfcfb [ mYbWci fU[ YX hc UhhYbX U WUggYg UbX fYj ]Yk YWfi fY fYWcfX]b[ g"

7 ci fgY GWXYXi Y

[J Yk WUgg ha YhUV Y](#)

Hja YhUV Y

8UhY	HmdY	7cbhYbh
K YY_%%(GYdhYa VYf! %GYdhYa VYf	Hcd]W	6Yfi ZgV]XYf
K YY_&.&%GYdhYa VYf! &)GYdhYa VYf	Hcd]W	6Yfi ZgV]XYf
K YY_'.&.'GYdhYa VYf! &C Wc VYf	Hcd]W	: Øf]a a Yfi bX Yk ]]
K YY_(.)C Wc VYf! - C Wc VYf	Hcd]W	Di V]W<c`]XUmžbc YWfi fYž\ca Yk cf_Ugg][ ba Ybh
	5ggYgga Ybh	: Øf]a a Yfi bX Yk ]] DcfhZc`c`DUfhžXi Y`C Wc VYf`%\$. \$\$žj ]U`7 ci fgY A ccX`Y`dU[ Y"
K YY_).%&C Wc VYf!`%* C Wc VYf	Hcd]W	? Ui Zbž_Ui Zbž_Ui ZYb
K YY_*.%C Wc VYf!`& C Wc VYf	@YWfi fY	6fYU_K YY_!!`bc WUggYg
K YY_+.&`C Wc VYf!`\$ C Wc VYf	Hcd]W	? Ui Zbž_Ui Zbž_Ui ZYb
K YY_'.&`Bcj Ya VYf!`* Bcj Ya VYf	Hcd]W	9bX`W`l fUi V
	5ggYgga Ybh	DcfhZc`c`=Xi Y`*`Bcj Ya VYfž%\$. \$\$j ]U`7 ci fgY A ccX`Y`dU[ Y
K YY_'.-`Bcj Ya VYf! %`Bcj Ya VYf	Hcd]W	9bX`W`l fUi V
	5ggYgga Ybh	HYghž%%Bcj Ya VYf Xi f]b[ `hi hcf]U`ha Ygž*\$a bg"
K YY_%\$.%*`Bcj Ya VYf! &\$`Bcj Ya VYf	Hcd]W	B UØf]W`B Uhi f
	5ggYgga Ybh	GdYU_]b[ `UggYgga Ybh Xi f]b[ `hi hcf]U`ž% Bcj Ya VYf"

F Ygci fWg

DfYgWf]VYX`F Ygci fWg`

5gdY\_h`B Yi`6%Z`@\f`!`i bX`5fVY]hgVi WXžHY]`&Z`5i X]c`7 8`f+ ,`' %&\*\$) \$%- +L!!`Uj U]UV`Y`UhHAY  
I`bj Yfg]mi6cc\_gtcfY"

F YWca a YbXYX`F Ygci fWg

GYY`A ccXY`Wci fgY`k YVg]H"

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

7ci fgYg`UFY`dYf]cX]W]`mfYj ]Yk YX`UbX`ghi XYbHg`ZYXVUW\_]g`i gYX`hc`]a dfcj Y`hYa`": YXVUW\_]g  
[ UH`YfYX`Zfca`ghi XYbHg`i g]b[ `a m9I dYf]YbWY" Ghi XYbHg`UFY`YbWci fU[ YX`hc`Wca d`YH`hAY]f`gi fj Ymg`Vm  
UWYgg]b[ `hY`dYfgcbU`]gYX`k YV`]b\_] ]U`hY`A ccXY`Wci fgY`g]H"

Gi Va ]gg]cb`cZ5ggYgga YbhiHUg\_g

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

≠mci`YbWci bHYf`U`dfcV`Ya`k` \Yb`UH`Ya` dh]b[`hc`gi`Va`]hmc`i`f`Ugg][`ba`Ybhi`h`fci`[`\`Hi`fb]h]b`z`d`Y`Ug`Y`  
HY`Yd`cb`Y`9I`HY`fb`U`Gi`ddc`fh`cb`-`,`,)`````%cf`Ya`Uj`h`Ya`icb`YI`HY`fb`U`HY`hgi`ddc`fh`4`i`bgk`"YXi`"Ui`""`Gi`ddc`fh`  
`l`ci`fg`Uf`Y`,`.\$\$Ua`-`-%\$.\$\$da`icb`k`YY`\_XUmg`UbX`-`.\$\$Ua`-`).\$\$da`icb`k`YY`\_YbXg`f`l`\*)`XUmg`U`m`Y`Uf`l`"≠mci`  
Uf`Y`i`bUV`Y`hc`gi`Va`]hmc`i`f`Ugg][`ba`Ybhi`Xi`Y`hc`U`Z`Ji`h`k`]h`Hi`fb]h]b`mci`ia`Um`Udd`m`Z`f`Ub`YI`HY`bg]cb`z`Vi`hmc`i`  
a`i`gh`f`Y`h]b`mci`f`h]W`Y`hbi`a`VY`f`Z`ca`9I`HY`fb`U`Gi`ddc`fh`f`U`cb[`k`]h`Ub`m`c`h`Y`f`f`Y`Yj`Ub`h`X`c`W`a`Y`b`h`g`k`hc`  
]b`Wi`XY`U`g`Y`j`]X`Y`b`W`hc`gi`ddc`fh`mci`f`YI`HY`bg]cb`Udd`]W`h]cb`"≠mci`Ya`Uj`9I`HY`fb`U`Gi`ddc`fh`mci`k`]`  
Ui`hc`a`U`h]W`U`m`f`Y`W`]j`Y`U`h]W`Y`hbi`a`VY`f`z`Vi`h]Z`mci`HY`Yd`cb`Y`mci`k`]`b`Y`Y`X`hc`gd`Y`W`Z]W`U`m`Ug`\_`Z`f`cb`Y`"  
Hi`fb]h]b`U`gc`d`fc`j`]X`Y`gi`d`X`U`h`g`cb`h`Y`]f`g`m`g`h`Ya`ig`h`U`h`g`cb`Hk`]h`Y`f`"

;`Yb`Y`f`U`m`z`Ugg`Y`gga`Yb`hi`U`g`\_`g`a`i`gh`V`Y`gi`Va`]h`Y`X`Y`Y`W`f`cb]W`U`m`j`]U`Y`]h`Y`f`Hi`fb]h]b`cf`U`A`cc`X`Y`  
Ugg][`ba`Yb`h`i`h`]b`g`h`U`b`W`g`k` \Y`f`Y`h`l`g`]g`b`c`h`d`c`g`g]V`Y`z`]h`k`]`V`Y`g`h`U`h`X`cb`mci`f`W`ci`fg`Y`g`A`cc`X`Y`g`]h`k`]h`  
U`h`Y`fb`U`h]`Y`gi`Va`]gg]cb`X`Y`h]g`"

:`cf`]b`Z`fa`U`h]cb`cb`l`ck`hc`gi`Va`]h`Ugg][`ba`Yb`h]g`cb`]b`Y`j`]U`A`cc`X`Y`.\`h`d`g`#`g`h`XY`b`h`i`bgk`"YXi`"Ui`#`ck`!  
gi`Va`]h`Ugg][`ba`Yb`h`a`cc`X`Y`"



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

D`U[ ]Uf]ga `]g`i`g]b[ `h`Y`k`c`f`X`g`c`f`]X`Y`U`g`c`Z`c`h`Y`f`g`i`U`b`X`d`f`Y`g`Y`b`h]b[ `h`Y`a` `U`g`m`c`i`f`c`k`b`" `#`W`U`b`h`U`\_`Y`a` `U`b`m`  
Z`c`f`a`g`Z`Z`c`a` `X`Y`]V`Y`f`U`h`Y` `W`X`Y`U`h]b[ `h`c` `U`W`W`Y`X`Y`b`h`U` `m`i`W`c`d`m]b[ `Z`c`a` `U`g`c`i`f`W` `k` ]h`c`i`h`U`W`\_`b`c`k` `Y`X[ `Y`a` `Y`b`h`

I`B`G`K` `[`f`c`i`d`g`d`U[ ]Uf]ga `]b`h`c` `h`Y` `Z`c` `c`k` ]b[ `W`U`h`Y`[`c`f`]Y`g.

- i bXYfghUbx'mci f'f][ \hg'UbX'fYgdcbg]V]h]Yg'Ug'U'gh XYbhUhl BGK
- VY'Uk UfY'cZd'U[ ]Uf]ga ž'Wc'dmf][ \hž' BGK 'Gh XYbh7cXY'cZ7cbXi W'Ubx'5W'W'dhUV'Y'I gY'cZ I BGK '⇒H'F'Ygci f'W'g'Dc`]W'h
- VY'Uk UfY'cZ'Y'ghUbxUfXg'cZVY\Uj ]ci f'YI dY'W'X'cZYj Yfmcby']b'h'Y'I BGK 'W'a a i b]m
- 'cW'W'h'gYfj ]W'g'UbX' ]bZ'fa U]cb'UVci hl BGK 'UbX'I BGK '@]VfUfm

Gca Y'cZ'Y'gY'UfY'Ug'k ]''VY'ZJa ]]Uf'hc'mci ž'c'h'Y'fg'k ]''VY'bYk "'; U]b]b[ 'U'gc`]X'i bXYfghUbx]b[ 'cZU''h'Y fY'UH'X'UgdY'W'g'cZ9@-G9'k ]''\Y'd'mci 'a U\_Y'h'Y'a cgh'cZ'mci f'gh X]Yg'Uhl BGK ""

[\h'hd.##ji V'Y'W'i \]X'Y'g" \]V'f'U'f'm'i b'gk "Y'X'i "U'i #' \]g'Y'#J'V'c'i h' \]g'Y](#)

