



# ARTS3480

5Xj UbWX': fYbWX'5

HYfa 'Cby''##'&\$%-

7 ci fgY`Cj Yfj ]Yk

`GHUZZ7cbhUWhi8YHU]`g`

`7cbj Ybcfg`

B Ua Y	9a U]`	5j U]`UV]`]m	@cWU]hcb	D\cbY
A cb]ei Y`@Ui fU	a "Ui fU4 i bgk [ `cVU"i bgk "YXi "	Hi YgXUm%\$`rc`%%`cf	A cfj Yb`6fck b	f\$&E`- ' , ) `!
	Ui	VmiUddc]bha Ybh'	&++	&' &%

GW\cc``7cbhUWhi`bZcfa Uh]cb

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

@cWU]hcb. `GW\cc``C Z]W]Z`A 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](#)

7 ci fgY'8YHJ]`g

7 fYX]hDc]bHg '\*`

Gi a a UfmicZ\hY'7 ci fgY

H\Y': fYbW\!gdYU\_]b[ `k cF'X'fYdfYgYbHg'cbY'cZ\hY'V][ [ Ygh`]b[ i ]gh]WncbYg]b'h\Y'k cF'X'k ]h'Ub'Ygh]a UH'X  
&+( 'a ]`cb': fYbW\!gdYU\_Yfg'cb'U``) 'Wcb]bYbHg" #di fgi ]b[ `mci f'ghi XmicZ\hY'Ub[ i U[ YZ'mci 'UfY'c]b]b[ 'U  
f]W\zj ]VfUbhUbX'X]j YfgY'Wca a i b]micZWcgY'hc'(- 'a ]`cb`YUfbYfg'k cF'Xk ]XY""H\]g'Wci fgY'k ]`VY'dYfZYWh  
Zcf'mci 'Zmci 'U'fYUXm\Uj Y'U'gc'X'\_bck`YX[ Y'cZ: fYbW\ fYei ]j U'Ybh'hc'Zci f'gYa Ygh'f'g'cZgh Xmj]b[ 'Uh  
i b]j Yfg]m'Yj Y'U'UbX'k ]`YbUV'Y'mci 'hc'bc]cb'm]a dfcj Y'mci f'k f]hY'b'UbX'Ui fU'Wca dfY\Ybg]cb'Vi hU'gc'hc  
Wca a i b]W]hY' ]XYUg]b'g'cfhYggUmg'UbX'X]gW'gg]cbg" ]cW]Vi 'UfmUbX'[ fUa a U]W]g'g'f'f'Wi fYg'UfY  
dfYgYbh'X' ]b'h\Y'Wcb]h'hcZW'hi fU'mfY'Yj Ubh]ggi Yg'UbX'mci f'YUfb]b[ `k ]`VY'Yb\UbW'X'k ]h'cb]bY  
Wca dcbYbHg'XYg][ bYX'hc'a U\_Y'`Ub[ i U[ Y'UWci ]g]h]cb'Z]gh'f'UbX'a cF'Y'Z]W]Ybh'BYk 'h'W\bc`c[ ]Yg'UfY'Ub  
]bH' fU'dUfhcZ\hY'Wci fgY'UbX'k \c'\_bck g3'Mci 'a UmYbX'i d ]bH'fUW]b[ `k ]h'U'fcVch...' ]b': fYbW\`

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

- % I bXYfg]UbX'UbX'fYgdc]b'hc'h\Y'a U]b]dc]bHg'UbX'gdYW]Z]WXYfU]g'cZcfU'UbX'k f]hY'b'hY'lg'k ]h  
Z]W]cbU'cf'Z]W]U'Wcb]h'bh'
- &" DfcXi W'g'cfhUf[ i a YbHg'UVci hW'hi fU'UfhY'Z]W]g'gi W\Ug'Z'a gZ'Vcc\_g'k ]h'Wcb]Z]YbW'UbX  
dfYW]g]cb
- ' " F Ygdc]b'X'k ]h'Uddfcdf]U'h'`dc`]hY'bYgg'UbX'fYgdYWh'hc'X]ZY'fYbW'g]b'W'g]hca gZ'U]h]h'XYg'cf'VY']YZg

c''H\Y'gYVc bX''YVh fY'ZcW'gYg'cb'[ fUa a Uf'rcd]Wg''H\YgY'UFY'YI d'U]bYX'k ]h ]b' h\Y'Vc bHfI hcZ hY  
h\Ya Uh]WVc bHf bHf'Wc j YfYX'Vmi h\Y' d'fc[ fUa ''Hc'Yb\UbW' mci f'YUfb]b[ 'YI dYf]YbW'zU''YVh fYg'k ]''VY  
d'fYfYVc'fYX'cb!' ]bY'UbX'U'WV'gg]V'Y'Uh'YUgh&XUmg']b'UXj UbW' /h\Ymk ]''VY'Ufh]W' U'hX'U'fci bX'h\Y  
d\]cgcd\micZ h\Y'Z]ddYX'WUggfcca . FZWX]bbW USeedaa\_ VVcUd]TWc S d'WhVcS^aXfdSV[f]a` S^fVdUZ[ Y  
i ZWdWefgVW feYS[ XdfWj baegdWfa `W \_ SfWd]S^agfe[VWaXU'Seet gegS^k h[S d'VdSV[ Y ad'WUfgdWh[VWc]et  
S`V fZW U'See f[\_W]e geW fa Va fZWZSd]Wd] ad] aXSee[\_[Sf[ Y fZSf ]` ai 'WYWFZdagYZ efdSfW[Vc egUZ  
Se bdaT'W\_ ea'h[ YI V[eUgee[a` ad'VW'SfVcZf] UbXYfV]hi b]j Yfg]mz'7YbhfY'Zc'f'HYUWX]b[ E''

H\Y'hi'rcf]U'g'k ]''[ ]j Y mci 'h\Y'cddcfh b]mhc'XYj Y'cd'mci f']bHfUW]j Y'g\_]`g'UbX'rc'i gY'h\Y': fYbW  
'Ub[ i U[ Y ]b'Vc bHfI h\h'fci [ \ga U''[ fci d'k cf\_''HYUWX]b[ ]g'Vc bXi WYX']b'Ub[ i U[ Y#Vca di Hf'U'Vc fU'rcf]Yg  
h\UhU'ck 'Zc'f']gHf]b]b[ z'fYVc'fX]b[ z]j ]Yk ]b[ ]j ]Xyc'a U'hf]U'g'UbX'i g]b[ 'bHfYbYh'fYgci fW'g''5'j Uf]YmicZ  
'Ub[ i U[ Y'fUg\_g]b'U''g\_]`g'U'fY'ja d'Ya YbHfX'Vmia YUbg'cZ h]g'h'VWbc'c[ m']

H\YfY'jg'U'gc'U'd'fc[ fUa 'cZVc'a d'Ya YbHfUfmk YY'\_miUg\_g'rc'VY'XcbY'ci hg]XY'WUggYg'Ug'Ui'rc'bca ci g  
\ca Yk cf\_''Mci 'UfY'g'fcb[ 'mUXj ]gYX'rc'Vc'a d'Yh' ]h]b'cfXYf'rc' ]b'WYUgY' mci f'fY[ i 'Uf'Vc bH'U'W'k ]h' h\Y  
'Ub[ i U[ Y'UbX'Z' f\h'Yf'XYj Y'cd'mci f'g\_]`g''D'YUgYz'bc'h' h\UhdU'f'hcZ]h'k ]''VY'i' gYX'Ug'U'VUg]g'Zc'f'h\Y  
W'fYU]cb'cZ h\Y'Vc' f'gY'UggYgga Yb'h'

Mci 'UfY'YI dYW'YX'rc.'

c''U'hYbX'h\Y'j cWU'Vi 'Ufm#W' h' fY''YVh fYg'UbX'

c''gh' Xmi h\Y'g]XYg'cZ h\Y'd'fY] ]ci g''YVh fY'UbX'fYj ]gY'h\Y'Vc bHf' bHf' hUi [ \h'

c''d'fYd'U'fY' ]b'k' f]h]b[ 'Zc'f'h\Y''YVh fYg'f'd'fYd'U'fU]cbg'a Um]bW' XY' fYUX]b[ 'a U'hf]U'g'z] cWU'Vi 'Ufm  
YI YfW]gYg'z] ]XYc'XcW'a YbHf'z'Yh'W'

c''g]h'f'rc'h\Y''YVh fYz'fU\_Y'bc'h'g'UbX'd'U'f]W]d'U'h'Ug'f'Yei ]fYX'Vmi h\Y''YVh fYf'

c''k U'hX'h\Y[ fUa a Uf''YVh fYg'cb!' ]bY'UbX'Xc'h\Y'fY'U'hX'U'W]j ]h]Yg'VYz'c'fY'Vc'a ]b[ 'rc'WUgg

c''U'hYbX'h\Y' ]b!WUgg''YVh fYg'h\Uk ]''VY'i' gYX'Zc'f'k' f]h'f'b'd'fU'W]W'UbX'YI YfW]gYg/'

c''fYj ]gY'h\Y'Vc bHf' bHf'cZd'fY] ]ci g''YVh fYg'UbX'hi'rcf]U'g

c''gdYU\_': fYbW'Uh'U''h]a Yg''

# 5ggYgga Ybh

HfUj Y`UffUb[ Ya Ybhg'a UXY'df]cf'UbX'UZf'hY'di V`]W]h]cb'cZ'h.]g'Wci fgY'cj Yfj ]Yk 'UFY'bhU'j U]X  
fYUgcb'Zcf'fYgW'YXi `]b[ 'cZ'UbmUggYgga Ybh'

## 5ggYgga YbhUg\_g'

5ggYgga YbhUg_	K Y][ \h	8i Y'8UHY	Gh XYbh@YUfb]b[ Ci hW'a Yg'5ggYggYX
E i ]n'	% )	Hi YgXUm\$) # \$' #&\$%- fK YY_ ' z`YVWf fY`%&	&
DfYdUFYX`X]gW'gg]cb`	&) )		








Gi Va ]gg]cb`cZ5ggYgga YbhHUg\_g

Gi Va ]gg]cb`cZ5ggYgga YbhHUg\_g

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

Ẓmci `YbWci bhYf`U`dfcV`Ya `k \Yb`U`H`Ya dh]b[ `hc`gi Va ]hmc i f`Ugg][ ba YbhHfci [ \`Hi fb]h]bžd`YUgY  
H`Yd\cbY`9I H`fbU`Gi ddcfhcb`-` , ) `` `` ` %cf`Ya U]`H`Ya `cb`YI H`fbU`H`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`mYUfL` Ẓmci  
UfY`i bUV`Y`hc`gi Va ]hmc i f`Ugg][ ba YbhXi Y`hc`U`ZU`i`hik ]H`Hi fb]h]b`mci `a UmiUdd`miZc`f`Ub`YI H`bg]cbžVi hmc i  
a i ghfYH]b`mci f`h]W`Yhbi a VYf`Zca `9I H`fbU`Gi ddcfhfU`cb[ `k ]H`Ubmch`Yf`fY`Yj UbhXcW a YbHgk`hc  
]bWi XY`Ug`Yj ]XYbW`hc`gi ddcfhmci f`YI H`bg]cb`Udd`]W]h]cb" Ẓmci `Ya U]`9I H`fbU`Gi ddcfhmci `k ]`

## 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" `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 hWYX]h`

hUddfcdf]UHY`dUfUd`fUg]b[ .`7`Ub[ ]b[ `U`ZYk `k cfXg`UbX`d`fUgYg`k \]Y`a cghmifYU]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 hWYX]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'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'Yfg'k ]''VY'bYk "'; U]b]b[ 'U'gc`]X'i bXYfghUbx]b[ 'cZU''h'Y fY'U'Y'X'UgdY'W'g'cZ9@-G9'k ]''\Y'd'mci 'a U\_Y'h'Y'a cghcZmci f'gh X]Yg'Uhl BGK ""

[\h'hd.##gi V'Y'W'f'i \]X'Y'g"'\]VfUfm'i bgk "Y'X'i "U'i #' \]gY#\]V'ci h' \]gY](#)

## 5 WUXYa ]WbZcfa Uh]cb`

: cf`YggYbh]U`ghi XYbh]bZcfa Uh]cb`fY`Uh]b[ `hc.

- fYei Ygh]Zcf`YI h`bg]cb/
- `Uh]`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/
-