

MUSC4101

7 f]ŊWU`±oj YgŊ[UŊcb']b'A i g]W

HYfa 'C bY''##'&\$%

7ci fgY[·]Cj Yfj]Yk

GHJZZ:7cbHJWh:8YHJ]`g`

7cbj Ybcfg

B Ua Y	9a U]`	5j U]`UV]`] m	@cWUhjcb	D\cbY
A]WkUY`' <ccdyf< th=""><th>g ·</th><th>6mUddc]bha Ybh fYa U]`a YŁ</th><th></th><th></th></ccdyf<>	g ·	6mUddc]bha Ybh fYa U]`a YŁ		

7ci fgY 8YHJ] g

7 fYX]hDc]bhg**

Gi a a UfmcZh\Y'7ci fgY

Gi VYWi5fYU. ? ge[U

 $\label{thm:condition} H\Y'Wei fgY'Wea d'YhYg'h\Y'dfc[fUa 'cV'YW]i Yg/]hYbUV'Yg'mci 'hc'XYa cbghfUhY'mci f'a UghYfmcZh\Y X]gW]d']bY!gdYW]Z]W_bck 'YX[Y'h\Uhimci '\Uj Y'XYj Y'cdYX'h\fci [\ci hh\Y'XY[fYY"'+b'h\Y'Wci fgY'mci 'k]'` XYVUhY'UbX'X]gW gg'g][b]Z]WUbhdfcV'Ya g']b'h\Y'Z]Y'XZ'k]h\'Uf[i a Ybhg'VUgYX'cb'_YmUfh]WYgZ'gWcfYg'UbX fYWcfX]b[g"'+b'h\]g'k Um]hdfcj]XYg'U'Zcfi a 'Zcf'mci 'hc']bj Ygh][UhY'UgdYWg'cZa i g]Wh\Uh'Zcfa 'W'ffYbh gW\c'Uf'mX]gU[fYYa Ybhg''Mci 'k]'``U'gc'[U]b']b!XYdh\'ZJa]']Uf]hmk]h\'U'j Uf]YhmcZUddfcUWXYg'hc'a i g]W]b]hg']bhYfX]gW]d']bUfmWcbhYl h'$

7 ci fgY @YUfb]b[Ci hMca Yg

- %" 5 fh]W `Uh/`XYV]g]cbg`UVci hgY`YW]b[`U`gdYV]Z]WUddfcUW.`hc`f][cfci g`m`]bj Ygh][UhY`U`[]j Yb`a i g]WU` dfcV`Ya `dfYgYbh`]b`h\Y`X]gV]d`]bY"
- &" 8Ya cbglfUlY'U'WflhWU'i bXYfglUbX]b['cZW'ffYbhaig]Wc'c[]WU'XYVUlYg'UVci haig]W'
- ' " 7 cblf]Vi h/ 'lc 'XYVUh/ 'VmX]gh]``]b['lh\Y 'Wfi W]U``]bZcfa Uh]cb 'Zfca 'X]j Yf[Ybh]XYUg`]b 'di V`]g\YX'k cf_ž]bWi X]b[ž'dYfZcfa UbWrgž'fYgYUfW\ž'fYWcfX]b[gž'UbX`gWcfYg"

HYUWX]b[GhfUhY[]Yg

9UW. "YWi fY k]```]blfcXi WY'U'rcd]W'5h`YUghik c'X]ZYfYbh'Uf[i a Ybhg`k]```VY'dfYgYbh'Xž'dfcV`Ya Uhjg]b['U WcbWYdhž']XYUž'd\]`cgcd\mž'cf'a Yh\cX"'H\Y'`YWi fY`k]```]b'h\]g'k Um]bhfcXi WY'YUW\'k YY_fij'fYUX]b[ž'UbX cdYb'i d'dcgg]V]`]hJYg'Zcf'X]gW gg]cb'UbX'XYVUHY']b'h\Y'gYa]bUf"

FYgci fWfg

DfYgWf]VYX F Ygci fWYg

FYWca a YbXYX FYgci fWYg

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

 $: YY``Z̄YY`hc`hU`_`hc`a Y`UVci hh\Y`Wci fgY`h\fci [\ci hh\Y`hYfa "`H\YfY`k]```VY`U`A m9I dYf]YbWY`gi fj YmUhh\Y YbXžVi h]b`a mYI dYf]YbWY`h\Y`a cghi gYZ\``ZYXVUW_`hU_Yg`h\Y`Zcfa `cZU`Wcbj YfgUh]cb"$

Gi Va |gg|cb cZ5ggYgga YbhHUg_g

Gi Va]gg]cb cZ5ggYgga YbhHUg_g

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

Image: Ybwci bhYf'U'dfcV'Ya k \Yb'UhYa dhJb['hc'gi Va]hmci f'Ugg][ba Ybht\fci [\ 'Hi fb]hJbž'd'YUgY

HY'Yd\cbY'9| hYfbU''Gi ddcfhcb'-',) '' ' ' %cf'Ya U] 'h\Ya 'cb'Y! 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'fl *) 'XUmg'U'mYUfŁ" Image:

UfY'i bUV'Y'hc'gi Va]hmci f'Ugg][ba YbhXi Y'hc'U'ZJi 'hk]h\ 'Hi fb]hJb'mci 'a UmUdd'mZcf'Ub'Y! hYbg]cbž'Vi hmci
a i ghfYhJ]b'mci f'hJW_Yhbi a VYf'Zfca '9! hYfbU''Gi ddcfhfU'cb['k]h\ 'Ubmch\Yf'fY'Yj UbhXcW a YbhgŁ'hc
]bWi XY'Ug'Yj]XYbW' 'hc'gi ddcfhmci f'Y! hYbg]cb'Udd']WUh]cb" Image: Ya U]''9! hYfbU''Gi ddcfhmci 'k]''

Ui hca UhJWJ''mfYW'] Y'U'hJW_Yhbi a VYfž'Vi h]Zmci 'hY'Yd\cbY'mci 'k]'''bYYX'hc'gdYWJZWJ''mUg_'Zcf'cbY"

Hi fb]hJb'U'gc'dfcj]XYg'i dXUhYg'cb'h\Y]f'gmghYa 'ghUh' g'cb'Hk]hYf"

; YbYfU``mž'UggYgga YbhiHug_g'a i ghVY'gi Va]hhYX'Y`YVWfcb]\W)``mj]U'Y]h\Yf'Hi fb]hjb'cf'U'A ccX`Y Ugg][ba Ybh'' =b']bgHJb\W'g'k \YfY'h\]g']g'bchdcgg]V`Yž']hk]``'VY'gHJhYX'cb'mci f'\\circ i fgY'g'A ccX`Y'g]hY'k]h\ U`hYfbUhj Y'gi Va]gg]cb'XYHJ]`g''

cfi]bZcfa Uh]cbicbi\ckihcigi Va]hUgg][ba Ybhgicbi]bYij]UiA ccXiY.i\hdg.#gh XYbh'i bgk "YXi "Ui #\ck! qi Va]hUgq][ba Ybha ccXiY

5 WUXYa]W<cbYghmUbX D`U[]Uf]ga

D`U[]Uf]ga `]g`i g]b['h\Y`k cfXg`cf`]XYUg`cZch\Yfg`UbX`dfYgYbh]b['h\Ya `Ug`mci f`ck b"'=hWJb`hU_Y`a Ubm Zcfa gžZfca `XY`]VYfUhY`W\YUh]b['hc`UWW]XYbhU`mWcdm]b['Zfca 'U`gci fWY'k]h\ci hUW_bck `YX[Ya Ybh'

IBGK [fcidg'd'U[]Uf]ga]bhc'h\Y'Zc``ck]b[WUhY[cf]Yg.

7 cdm]b[.'i g]b['h\Y'gUa Y'cf'j Yfmg]a]`Uf'k cfXg'hc'h\Y'cf][]bU`hYl h'cf']XYU'k]h\ci h'UW_bck `YX[]b['h\Y gci fW'cf'i g]b['ei chUh]cb'a Uf_g"'H\]g'U`gc'Udd`]Yg'hc']a U[Ygž'Ufh'UbX'XYg][b'dfcYWhgž'Ug'k Y``'Ug dfYgYbhUh]cbg'k \YfY'gca YcbY'dfYgYbhg'Ubch\Yf'g']XYUg'cf'k cfXg'k]h\ci h'WfYX]h'

♣Uddfcdf]UhY 'dUfUd\fUg]b[...7\Ub[]b[...7\Ub[]b[...7\Ub[]b[...7\Ub[]b[...7\Ub[]b]b[...7\Ub[]b]b[...7\Ub[]b]b[...7\Ub[]b]b[...7\Ub[]b]b[...7\Ub[]b]b[...7\Ub[]b]b[...7\Ub[]b]b[...7\Ub[]b]b[...7\Ub[]b]b[...7\Ub[]b]b[...7\Ub[]b]b[...7\Ub[]b]b[...7\Ub]b[...7\Ub]b]b[...7\Ub]b[

7 c``i g]cb.'k cf_jb['k]h\ch\Yfg'Vi hdUgg]b['cZZh\Y'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'ghi XYbhVYZcfY'h\Y'Xi Y'XUhYžcf'Zcf'h\Y'di fdcgY'cZh\Ya d`U[]Uf]g]b['UhiUbmh]a Yž'dUm]b['Ubch\Yf'dYfgcb'hc'dYfZcfa 'Ub'UWUXYa]WhUg_ž'ghYU']b['cf'UWei]f]b[Ubch\Yf'dYfgcb'g'UWUXYa]Wk cf_'UbX'Wcdm]b[']hz'cZYf]b['hc'Wca d'YhY'Ubch\Yf'dYfgcb'g'k cf_'cf'gYY_]b[dUma YbhZcf'Wca d'Yh]b['UWUXYa]Wk cf_"

±bUddfcdf]UhY`W]hUh]cb.`7]h]b[`gcifWrg`k\]W\`\UjY`bchVYYb`fYUXžk]h\cihUW_bck`YX[]b[`h\Y`´gYWcbXUfm´gcifWrZfca`k\]W\`_bck`YX[Y`cZh\Ya`\Ug`VYYb`cVhU]bYX"

8 i d`]\WUh]cb`ffgY`Zd`U[]\Uf]ga "Ł gi Va]\h]b[`mci f`ck b`k cf_ž]b`k \c`Y`cf`]b`dUfhžk \YfY`]h\Ug`dfYj]ci g`m VYYb`dfYdUfYX`cf`gi Va]\hYX`Zcf`Ubch\Yf`UggYgga Ybhcf\Wci fgY`UhI BGK `cf`Ubch\Yf`i b]j Yfg]\m'

7 cffYWnfYZYfYbWlb['dfUWnWyg.

• DUfUd\fUg]b[žgi a a Uf]g]b[žYggUmk f]h]b[UbX h]a Y a UbU[Ya Ybh

- i bXYfgHUbX'mci f'f][\hg'UbX'fYgdcbg]V]`]h]Yg'Ug'U'gh XYbhUhI BGK
 VY'Uk UfY'cZd`U[]Uf]ga ž'Wcdmf][\hz'I BGK 'Gh XYbh7cXY'cZ7cbXi WhUbX'5VWWdhUV`Y'I gY'cZ IBGK =7 HF Ygci fWrg Dc`]Wh

5 WUXYa]W±bZcfa Uhjcb

: cf'YggYbhJU`gh XYbh]bZcfa UhJcb'fY`UhJb['hc.

• fYei YghgʻZcfʻYl hYbg]cb/