# DYdUfh a Ybh cZ LUb [ i U [ Y

# Cc"Y[Y cZ Afhg UbX SW]YbWYg

FUW i hm

>YUb A UTYK U`g(1-, +). DfcZ/ggcf cZ@Ub[ i U YUbX8 YdUfla Ybh7\Uf. 6.5. UbXA .5., A ]gg[gg]dd] CfUYI b]j Yfgllm/ UbXD\.8., @ci ]g|UbUCHJYI b]j Yfg|lm5XX||h|cbU ghi XmB cfl\k Yg|Yfb I b]j Yfg|lm

>i `Y; `ceach (1--)). 5 each (1--)). 5 each (1--)). 5 each (1--). 5 each (1--). d\]g

7nlbh JUDck Y` xinlbY(1-+\*). I b]j YfgllmDfcZ/ggcf cZ@Ub[i U YUbX5ggcVJUYDfcj cghZcf =blYfbU1jcbU UbX=blYf-W'h fU Ch X|Yg 6.5., A |gg|gg|dd| 7c``Y| Y/A .5. UbXD\.8., @ci |g|UbUChLHYI b|j Yfg|lm/5XX|h|cbU gli XmJ UbXYfV|'h I b]j Yfg|m,I b]j Yfg|mcZ? Ybh Wm,UbXh,YG a a Yf =bgd|h hYcZ=bhYW)h fU 7ca a i b]Wd|cb.

J | Whitf|UA UcbY(200)). = bgfi Whitf cZ@Ub[i U Y. 6.5. UbXA.5., Bcfh Yfb = `|bc|gI blj Yfg|lm

? LEYBA LEFF (2003). 5 gg/gFLbhDfcZ/ggcf cZ@Ub[ i U[ Yg 6.5., GUa ZcfXI b]j Yfg/lm/6.5., I b]cb I b]j Yfg/lm/A.5., H\Y I blj YfglmcZ5`UVLa U/8cVMcfU 7LbX|XLhY, A |XXYVi fm7c``Y| Y.

D\]``|d; .Fn\b((1--+).5ggcV|U+YDfcZ/ggcfcZ@Ub[iU]YUbX7ccfX|bUtcfcZh\Y9G@Dfc[fUf

dcfhi b|h|Yghc Yb\UbW\cb-Wa di gghi Xm df]cf hc h\Y`UghgYa Yghf cZghi XmUhl b]cb UbX hc Ybfc`` ]b Uh`YUghcbY`Ub[ i U, YWi fgYUZhf h\YY! dYf]YbW. GYY

UfYglfcb[`mi f[Y

8 YdUfha Ybh[ i ]XY]bYgZcf XYtU]`gUvci hd`Ubb]b[ gli XmUvfcUX

H\YHMW]b[9b[']g\ UgUGYWbX@Ub[iU]Ya U'cf, k]h\]lpgdfcb[Ya d\Ud]g]b Udd`]YX`]b[i]gdfWbXk]h\]lp ÚYXYI dYf]YbWcddcfli b]ljYg dfcj |XYgUgi ddcfljj YUbXgi VglUbljj YZfUa Yk cf\_ Zcf dUflyNdUblglic XYj Ycd l\ Ylf

i bXYfgLbX|b[ cZ`Lb[i U YLbX lc Y d`cfYl\ Ylf ck b XY; Y`cda YbhUg`Lb[i U Yl\WYfg H\ Ydfc[fUa ]gXYg[bYX

Zef h\cgYgYY\_|b| Ya d`cna YbhhYUW|b| 9b|`|g\ UgUgYWbXcf ZefY||b `Ub|i U Y.

= A U'cf,: fYbW cf CdUb]g\: @Ub[i U YUbX7i `hi fYHfUWÍ 37\ci fg

5. GYYMi\*\ci fg 211, 212, 213, 21(cf UbmI ddYf Yj Y Wri fgYg

6. GYYMi\* \ci fg 311, 312, 31\*, 31+, (11, (20, (21, (--, 3-)/(-)))

7. **CySAN**i-320ci3321630061913c) d(UbX 12\ci fg2fca h\YUh\fbUhj Y| fci d 2. 213, 320, 31-, (1-, (--, 3-)/(-)\*

8. =a a Yfg|cb Wri fgYcf Uddfcdf]UHYghi XmUVfcUXÍ 3\ci fg

A. U.c.f.: fybWcf GdUblg\: @|hfUi fYUbX7i \

X ib g

A=Aa=YaY A 9. 9.

9-9gc I df\bdigV gYcf Q 290Í9e Vbb

9-9-390

6. **39**-3 32), 330 UbXY|h\Yf (30 cf 3-)/(-)\*Í 12\ci fg

7. **GY**YWhi\* \cifgcZ@]hMfUhifY, GifjYmcf; YbfY 1.: F9 311, 312, 31+, (20, (21

2 GD5 311, 312, 31\*, (11, (20

8.31- cf (1-/3) 0, (-01 + ci fg)

490Í 2glcb Wri fgYcf Uddfcdf JUYgli XmLVfc

- 9. =a a Yfglcb Wri fgYcf gli XmUVfcUXÍ 3\ci fg
- :. DfcZ/gglcbU 9Xi Whlcb. 98 I 1) 0, 2) 0, 32\*, (23, (33/DQM213, 31, /Q9 22)
- ; .7ca d`Yljcb cZUdd`]WWYdcfljcbgcZl\YDfU]g=
- < .: cf UXXII-jcbU ]bZcfa U-jcb, gyyh y 5 ggjglUbh8 yUb Zcf HMUWyf 9Xi WJ-jcb UbX 5 WMyXII-U-jcb.

#### =J. A U'cf, HMWV|b| 9b| `]g\ UgUGYWbX@Ub|i U YÍ 34\ci fg

- 5. H9G@ 210, 220, 31), 320, (10, ((0
- 6. =7G320/98I (23/@5B; 3)0/9B; ()0cf(\*0
- 7. CbYcZ DG7 332, D< @3(-, GC7 (1-
- 8. @Ub[iU] YdfYfYei]ghY. =bhYfa YX]UhYdfcÚVMYbWhh]bU2bX`Ub[iU] Y
- 9. H9G@(-OÍ 1\cif

#### J. HYUWYf@Włogi fY]b 9b[`]g\ UgUGYWłbX@Ub[i U]Y

- 5. A Ucf fYei |fYa YblgUgg\ck b U/cj Y.
- 6. DfcZ/gg|cbU 9Xi Whlcb. 98 I 1) 0, 2) 0, 32\*, (23, (33/DGM213, 31, , 32(/G9 22).
- 7. 7ca d`Yljcb cZUdd`]WWYdcfljcbgcZl\YDfU]g=
- 8.: cf UXXJH;cbU ]bZcfa U+jcb, gYYh Y5 ggjgHbh8 YLb Zcf HMWYf 9Xi WH;cb UbX5 WYXJHL+jcb.

#### J = A | bcf, @b[i U Y U X 7i h f Y H U W 1 21 ci fg]

- 5. GYYMi\* \ci fg 211, 212, 213, 21(, cf I ddYf Yj Y Wi fgY
- 6. GYYMM3\ci fg 311, 312, 31\*, 31+, (11, (20, (21, (--, 3-)/(-)\*
- 7. GYYM $^*$  \ci fg 313, 32), 330, (30, ((0, 3-)/(-)\*
- 8. GYYMi\* \ci fg 213, 31-, 320, (1-, (--, 3-)/(-)\*

### $J = A | bcf, @ | h f U i f Y U b X 7 i h f Y H U w i 21 \ ci f g$

- 5. GYYMni\* \ci fg 211, 212, 213, 21(, cf UbmI ddYf `Yj Y Wri fgYg
- 6. GYYMn\* \ci fg 311, 312, 31\*, 31+, (11, (20, (21, (--, 3-)/(-)\*
- 7. GYYM $^*$  \ci fg 313, 32), 330, (30, ((0, 3-)/(-)\*
- 8. GYYMi3\ci fg 213, 31-, 320, (1-, (--, 3-)/(-)\*

#### J = A | bcf, HMW | bf | gbf | gV | UGYWbX@Ubf | i Uf | 21 ci fg

- 5. H9G@210, 220, 31), 320/=7G320Í1) \ci fg
- 6. H9G@(10cf((0/98I (23Í \* \ci fg

### AggYgg a Ybh cZ MU^cfg

5 ````Ub[i U[Ya U'cfga i gh\U]YcfU dfcUVMbWhh]b h\Yhtf[Yh`Ub[i U[YYei]j UYbhhc Ub 5 7H @fU]b[ cZÎ=bhYfa YX]UY< ][\.Ï H\]gk]``VYXYhYfa ]bYXVmh\YUddfcdf]UhY]bglfi Whcf h\fci [\ Ub]bXlj ]Xi U ]bhYfj ]Yk hc VYWbXi WhXX Xi f]b[h\YgYWbXgYa YghYf cZh\Y1 b]cf mYUf. 9UW ghi XYbh]gfYgdcbg|VYZcf gWYXi`]b[h\Y]bhYfj ]Yk Xi f]b[h\Y]kYg[[bUhXgYa YghYf. GYY8 YdUfha Ybh7\U]f Zcf UXX]h]cbU ]bZcfa Ul]cb.

Gi XYblgdfYgYbl]b[ lfUbgZvf cf hYg]b[ VfYX]h]b `Ub[ i U Yk ]`` VYYj Ui UhX hck UfXd`Uwa Ybh]b h\ Ydfc[ fUa UbX ]b dcgg[V`YUdd`]Wh]cb cZh\cgY VfYX]lg hck UfXU`Ub[ i U Ya Ucf cf a ]bcf.

# CcifgY OZZYf]b[g]b FfYbW\ (FRE)

() < ci fg7fYX]h

#### 111-2 6Y | |bb|b| : fYbW (3)

: i bXLa YbHJgcZdfcbi bVJLHcb, Wbj YfgLHcb, [fUa a Uf, UbX Wa dcg]Hcb. : F9 111 WbbchVY HJ\_Yb Zcf WYX]hVm gli XYblgk \c \Uj Y\UX hfYYcf a cfYgYWbXLfmgWcc`i b]lg H\fYY\ci fg`YMi fYUbXcbY\ci f`W dYf k YY\_.

#### 211. =bhfa YXJUY7cbj YfgUlcb UbX; fUa a Uf (3)

DfYfYei |g|hY.: F9 112, 2nYUfg\|[\gWcc`: F9 cf XYa cbg\fUhX hck UfXd`UWa Ybh, UbX Wa a

DfYfYei |g|hY.: F9 112, 2mYUfg\][\gWcc`: F9 cf XYa cbgfUhYArck UF 5 fcZdf

91

#### 315 7f|hW 7cbhl hcZ@hhfUhh(3)

91 d'cf]b[ 2bX'tb[i U Y']hMfUMnZfca h\YW]h]W dYfgdYMij YcZ']b[i ]gd]Wg dYXU c[mUbX'tb[i U YhMWYf YXi Whl;cb hck UfXh\YXYg][b UbXhMW]b[cZ']hMfUMng\_]'`ghc 'tb[i U Y'YUfbYfg

#### 320 9G@5 ggYgga Ybh(3)

DfYfYei ]g|hY. H9G@210 & 220.

91 Ua ]bYg]ggi Yg]b hYgHjb[, UggYgga YbhcZ`Ub[i U[YUdH]hi XYUbXWa dYhYbW, UbXi gYcZfYgi `lgUgk Y`Ugh\YXY-j Ycda YbhcZUggYgga Ybhhcc`g

# 410 7i ff]W/i a UbXA Uhf]Ug8 Yj Ycda Ybh]b DfY? -12(3)

DfYfYei |g|hY. H9G@310UbX7G7 10).

7\ccg|b[UbXWMU]b[a UMf]UgZcfXYjYcd]b[Wff]W`UZcfV]-UbXai`l]`]b[iUWLggfccag]bWfdcfU]b[l\\Ycf]YgUbXdf]bMd`Yg]bhcUbYYMfcb]WLbXdf]bhaUbiUcZaUMf]UgZcfWLggfccaigY.

5j U'WY]bai'hd'YXYdUfha YbhU dfYÚl.

#### 179279379479 91 htfbU 8 ca Yell WChi XmDfc | fUa g(1-3) 5 gB YXXX

5 ``WrifgYgUbXh\YffUdd`]Wrlcbga i ghVYXYÚbYXUbXUddfcjYXdf]cfhcfY[]ghYf]b[.

#### 180 280 380 480 Ghi Xm5 VfcUXDfc[fUa g(1-4)

5 ``Wi fgYgUbXh\Yff Udd`]Wh]cb a i ghVYXYÚbYXUbXUddfcj YXdf]cf lc lfUj Y.

#### 19567. GdYMU Chi XIYg(1-4)

29567. GdYVNU Gli XIYg(1-4)

@ck Yf-`Yj Y [fci d ghi X]Ygk \]W Xc bchUddYUf]b h\YfY[i `Uf XYdUfha YbhU cZZYf]b[g

#### 260, 360, 460 @Ub[i U] Y=a a Yfglcb (1-3)

DfYfYei ]g|hY. 112 cf Yei ]j UYbhcZh\YhLf[Yh`Ub[i U,Y.

@Ub[i U]Y]a a Yfglcb Yl dYf]YbWgcZXfYXcf Uddfcj YXVmh\YXYdUha Ybh A UmVYfYdYUhXUhUbm`Yj Y UbXUa U]-a i a cZ3\ci fgUdd`]YXhck UfX[fUXi Uhcb.

#### 39567. GdYVJU Chi XJYg(1-4)

I ddYf-Yj Y [fci d ghi X]Ygk \ W Xc bchUdYU ]b h\YfY i `Uf XYdUha YblU cZXf]b[g

#### 495-67. =bXYdYbXYbhGli Xm(1-4)

=bX]j ]Xi U fYgYUfW i bXYf h\Y[i]XLbWcZUZUW`hma Ya VYf(g).

#### 350 =bgffi WijcbU A Yh cXc c[m(1-3)

DfYfYei |g|hY. CbY300-`Yj Y Wri fgY. 7cfYei |g|hY. cbYUXX|h]cbU 300cf (00-`Yj Y Wri fgY.

5 gi dYfj ]gYXYI dYf]YbW]b ZcfY][b `Ub[i U[Y]bgffi Wi]cb. A U ]a i a cZ3\ci fghc Udd`mZcf [fUXi U]cb.

#### 440 GcV/c-UbXDgnWc`]b[i]gl]Vg(3)

DfYfYei |g|hY. H9G@210 & 220.

DgnWc`c[]WrVlgYgUbXdfcWggYgcZ`Ub[i U YUWri]glt]cbUbXi gY, k]lh Ya d\Uglgcblh\YfY`Yj UbWcZWffYbhfYgYUfW Zcf`Ub[i U Y`YUfb]b[ UbX hYUW]b[. Chi X]Yg`Ub[i U Y]b]llggcVJU WrbhM h, gcVJU UbX fY[]cbU j Uf]Ut]cb, `Ub[i U Y WUb[YUbXWUb[Yd`Ubb]b[, UbXh\Y]a d`]Wlt]cbgcZ`Ub[i U Yj Uf]YhmZcf h\YhfUbga ]gg]cb cZ`]hMfUMh

# 490 7UdglebYGYa ]bUf(1)

DfYfYei |g|hY. CbY300 cf (00 Yj Y Yb| i U YWi fgY.

7 UdgrcbY Wri fgYfYei ]fYX cZU` a U'cfg]b h\ Y ÚbU gYa Yghf cZWri fgYk cf\_ ]b h\ Ya U'cf. Chi XYbhg k ]`` dfYdUfY UbX dfYgYbhUfYgYUfW dfc'YMr dUdYf VLgYX cb k cf\_ XcbY WrbWffYbhm]b Ubm300- cf (00-`Yj Y Wri fgY.

#### 498-499 GYa lbUf (1-3)

91 La d`Yg]bWi XY Vi hLfY bch`]a ]l\XX lo 7f]l\JW 5 ddfcLWYg lo 7i `li fY LbX @|l\fUi fY, Fca LbW D\]`c`c[ m, LbX @Lb[ i LJ YLbX 7i `li fY.