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A' / 8 - = \$ C D / 4 ; 8 \$ '
E \$ 8 / = \$ C G / H ; I /

Национальный университет физического воспитания и спорта Украины (г. Киев)

“#%'()%)%'\*,%- . 0\*12\* \*34%6%'(78 3\* 7\*09,)7\*
\*2 \*;7., (' 3\*;% ;%=>, )7\*=? \*2\* 4\*;\* 6.'8@%, (
3\*=96(' '( \*2 649A(B 0 ? ; '(78 , 2\* , \*0 2.34., '%2((,
. (0%22\* ; ; 0\*D8E, 6%F;7,9ED%F 3\* ; '% 2%A\*\*

Герберт Уэллс

G'9=- (F 0 ? ; '(7%'8 ( H-;3%4(0%27.7\*4, )%'\*,%- ; -\*'\*; ; . '82?0 ( 96(,(7%'82?0 0(4\* ,\*J4%-
2(%0, ,%' (-\*69@2?F A90.2(;7 3\* ;97( K. M. O.397(2 J. ' \*1 (' \*;2\* , ? \*7%)%;7,%22\*F=( \*0%B.2(- ( (
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'(-\* ,.2? J. 49=%1\*0. M%,%4\*>72\*% 3\* \*B, .79 ( 92(-. '82\*% 3\* A'9=(2% 2.9)2\*% 2.;'%6( % K. M. O.-
397(2. \*- .J? , . '\* ( \*- .J? , .%7 \*A4\*02\*% , '( >2(% 2. 4.J,(7(=( \*0%B.2(- ( ( -(2%J(\*' \*A(( , -4.(-
2% . K. M. O.397(2 \*=' .6.' 96(,(7%'82\*F ;3\* ;\*=2\* ;78E , (6%78 3%4;3%-7( , ? 4.J,(7(> 2.9-( , 34\*A2\*-
J(4\* ,.78 %A' ,.2?% 2.34., '%2(>. R(7.7%'E 34%6;7., '>%7;> ;\*J6.22\*% K. M. O.397(2?0 2.9)2\*%
2.34., '%2(% - “”(2%7(-. 7%' . )%'\*,%-.”, -\*7\*4\*% >, (' \*;8 , \*3\*'D%2(%0 ;(;%02\*A\* 3\*6B\*6. -
(J9)%2(E 6, (A.7%'82\*F S92-T(( )%'\*,%-..

!.229E ;7.78E, , -\*7\*4\*F ,0%;7(' ;8 02\*A( (6%( ( 0 ? ; '( \* 6, (A.7%'82\*F S92-T(( )%'\*,%-.. ,>
3( ; . ' ; \* ,0%;72\* ; \* ; ,\*(0 9)(7%'0 ( 2.;7.,2(-\*0, 6\*-7\*4\*0 =( \*' \*A( )%;-(B 2.9-, 34\*S% ; ; \*4\*0,
J. ;'91%22?0 6%>7%'0 2.9-( ( 7%B2(- ( -4.(2? K. M. O.397(2?0. M\* , - ; \*1.'%2(E, 34( 1(J2(
, ?6.ED%A\* ;> 9)%2\*A\* , 3\*'2\*0 \* =U%0% 0? % % 2% 9;3%'( \*39='(-\* ,.78. V4%6'.A.%0.> ) (7.7%'E
4.=\*7. >, '>%7;> 34\*6\*'1%2(%0 7\*A\* T(-. ( ; ;'%6\* ,.2(F 6, (A.7%'82\*F S92-T(( )%'\*,%-.. , -\*7\*4?%
2.) .7? 2% ; -\*'8-\* 6% ;>7-\* , '%7 2.J.6 , M.T(\*2.'82\*0 92( ,%4 ;(7%7% S(J( )%;-\*A\* , \* ;3(7.2(> ( ;3\*4-
7. -4.(2?. X0%22\* 3\*H7\*09 9 2. ; ;%78 9, %4%22\* ;78 , 7\*0, )7\* 34\*='%0? , 3\*62(0.%0?% , 6.22\*F
;7.78% , 3\*'9).7 ; ;% 6.'82%F@% 34\*6\*'1%2(% ( 4.;34\* ;74.2%2(% , \*=' . ;7( =( \*0%B.2(- ( (
-(2%J(\*' \*A(( .

. Y, \*'ET(> )%'\*,%- . >, '>%7;> ; ;%\*=4.J2\*F '%7\*3(;8E %A\*
=( \*' \*A( )%;-\*A\* 4.J,(7(>. M. 4.J' ( )2?B % % H7.3.B=( \*' \*A( )%;-(% \*=U%-7? , ?3\*'2>E7 4.J2\*\*=4.J2?%
S92-T(( . [ . , , ) ;72\* ;7( , \*4A.2(J0 )%'\*,%-.. , -\*7\*4?F , 4>6% ;'9).% , 4. ; ;0.74( . %7;> - . - 2.(=\*%'%
; \* ,4%0%22\*% ; \*J6.2(% 34(4\*6? , , 34(2T(3% 34%6;7., '>%7 ; \* =\*F \* = ? )29E=( \*' \*A( )%;-9E ;9D2\* ;78.
] 62. - \* ; \* ,4%0%22?% 7%\*4%7( )%;-(% -\*2T%3T( ( 4.J,(7(> 1( , \*F 34(4\*6? ; %A\*62> ;7.,>7 )%'\*,%- . (
%A\* 1 (J2%6%>7% '82\* ;78 , 4>6 ; .0?B 92(-. '82?B 7, \*4%2(F=( \*' \*A( )%;-\*A\* 4.J,(7(>.

\_\*,4%0%22.> 7%\*4(> H, \*'ET(( ; , (6%7%'8;7,9%7 \* 7\*0, )7\* , 4.J,(7( % \*4A.2(J0. )%'\*,%-.. 4.J-
' ( )2?% ; ;(7%0? , 2\* ;>7 ; , \*F ; \*= ;7, %22?F , - .6. Y7\* , , 3%4,9E \* )%4%68, \*72\* ; (7;> - S\*40(4\* ,.2(E
9 )%'\*,%-.. \*34%6%'22\*F ; ;(7%0? ' \*- \*0\*T(F. 4\* , %28 J2.2(F J. -\*2\*0%42\* ;7%F 4.J,(7(> H7\*F
; ;(7%0? ; %A\*62> >, '>%7;> \*34%6%'>ED(0 S.-7\*4\*0 4.J,(7(> ; \* ,4%0%22\*F T( , (' (J.T(( . \_ H7\*F
7\*)-( J4%2(>, ( ; ;'%6\* ,.2(> 0%B.2(J0\* , S\*40(4\* ,.2(> ( 4.J,(7(>9 )%'\*,%-.. 6, (A.7%'82\*F S92-T((
; '%69%7 34(J2.78 , % ;80. .-79. '82?0 [2; 3].

!, (A.7%'82.> S92-T(> - \*62. ( J , .12%F@ (B S92-T(F \*4A.2(J0.. # 34\*T% ; ; H, \*'ET( ( \*4A.2(J0
)%'\*,%-.. - . - \*7-4?7.> , 2\* \*72\* ; (7%'82\* \* = \* ; \* = '%22.> =( \*' \*A( )%;- .> ; ;(7%0. 34(\*=4% ' ; 3\* ; \*=2\* ;78
- . -7( ,2?0 6, (1%2(>0, ='.A\*6.4> 2.' ( ) (E HSS%-7( ,2?B 0%B.2(J0\* , \*=0%2. H2%4A( %F , %D% ;7, \*0 (
(2S\*40.T( %F ; \*-491.ED%F ;4%6\*F. a.4.-7%4 ( J. -\*2\*0%42\* ;7( \*4A.2(J.T( ( H7(B 6, (1%2(F , \*
02\*A\*0 \*34%6%'>E7 7% 34\*>, '%2(> 1 (J2%6%>7% '82\* ;7( %A\* \*4A.2(J0., -\*7\*4?% 34(2>7\* \* =U%6(2>78
3\*6 \* =D(0 3\*2>7(%0 - ?\* \$ J / 8 (= >' / I K ; : ' L \$ I & (= \* ( : / . \_ \* ; \* > 2(% 6, (A.7%'82\*F S92-T(( \*74.1.%7
;3\* ; \*=2\* ;78 - \*2-4%72\*F =( \*' \*A( )%;-\*F ; ;(7%0? 9' . , '( , .78, 2.-.3' ( , .78 ( 34%\*=4.J\* , ? , .78
4.J' ( )2?% , (6? H2%4A( ( , %D% ;7, . ( (2S\*40.T( ( . Y7. ; 3\* ; \*=2\* ;78 0\*1%7 = ?78 (J0%4%2. ( (J9)%2.
397%0 \* =U%-7( ,2\*A\* ( ; ;'%6\* ,.2(> 0%B.2( )%;-(B 6, (1%2(F ( 649A(B S(J( )%;-(B 34\*>, '%2(F
=( \*' \*A( )%;-\*F ; ;(7%0? \*4A.2(J0..

M.). '82?F 3%4(\*6 4.J, (7(> 9)%2(> \* 6, (1%2(( 7%' . )% '\* ,%- . 9B\*6(7 , 6. '%- \*% 34\* @ ' \*% 0(4\*- , \*F 2.9)2\*F 0?; '( [1; 2].

#\*34\*;? (J9)%2(> 6, (1%2(F 7%' . )% '\* ,%- . 4.2%% 4.; ;0.74(, . '( ;8 , 7.- 2.J? , .%0\*F 6(2.0(- )% ;-\*F .2.7\*0(( . [%40(2 “.2.7\*0(>” 2% 6.%7 , \*J0\*12\*;7( 3\*'9)(78 (2S\*40.T(E \* 6, (1%2(( 7%' . )% '\* ,%- .. !(2.0())% ;-.> .2.7\*0(> (\*7 ' .7(2. дина с ; ('. , 34())(2. 6, (1%2(>) >2'>%( ; ;0с6 —I3(M0

\*3(;.2(%;74%2(>)%'\*,%)%,-\*A\*7%'.,%A\*-\*;7%F,(B;:\*6(2%2(F(0?@T,2974%22(B\*4A.2\*.,#; % @(-(- (4.J')()2?%J.= '916%2(>,-\*7\*4?%2.-\*3('(;8, .2.7\*0((6\*2%A\*,='.A\*6.4>H7\*0974969, =?'(9;74.2%2?.

!1\*,.22(K'8S\*2;\*g\*4%'(1608c1679AA.)2.3(;.';7.,@(F2.:%A\*62>-'.;)%;-(0(J,%;7-2?F7496“]6,(1%2((1(,\*72?B”,,-\*7\*4\*0\*2,3%4,%9-.J.'2.3\*'\*1%2(\*=D%A\*T%274.7>1%;-7(,%7%'%)%\*',%-. ,34\*(J,%'-'.;:(S(-.T(E6,(1%2(F)%%\*',%-. (1(,\*72?B,-\*7\*4.>(;3\*'8J9%7;>( ,2.;7\*>D%%,4%0>.

#?6.ED(F;>B(494A(.2.7\*0M.X.V(4\*A\*,(1810c1881AA.)>,(';>:\*J6.7%'%07\*3\*A4.S()%;- \*F.2.7\*0((.PA\* -2(A.“[3\*A4.S()%;-.>.2.7\*0(>”,(''E;74(4\*,.22.>4.J4J.0(,34\*,%6%22?0( )%4%J.J.0\*4\*1%22\*%7%'\*)%\*',%-. ,74%B2.34.,'2(>B,-.- (02\*A(%649A(%A\*2.9)2?% .2.7\*0(- )%,-(7496?,2%974.7('.;,\*A\*J2.)%2(>(,2.@,%4%0>.V(4\*A\*,\*6(2(J3%4,?B9-.J.'2.;>J8 S\*40?-\*;7%F; ,?3\*'2>0\*F(0(S92-T(%F,;)(7.>,)7\*2.4912?F,(6-.16\*F-\*;7(%;787\*'8-\* \*;9D%;7,'%22.>(6%>%S92-T(\*2.'82\*A\*2.J2.)%2(>.

V.h.O%;A.S7(1837c1909AA.)c ,?6.ED(F;>.2.7\*0(\*=D%;7,%22?F6%>7%'8,\*;2\*,\*3\*'\*12(-2.9-( \*S(J)%;-\*F-9'8794% c4.J4.=\*7.'7%\*4%7()%;-(%34%63\*;'-(6'> ;\*,4%0%22\*A\*4.J,(7(>S(J)%;-\*A\* ,\*;3(7.2(>( ;3\*47..O%;A.S7\*0 ;\*J6.2\*9)%2(% \*S92-T(\*2.'82\*F \*=9;\*',%'22\*;7(S\*40? ;74%\*2((-\*;7%F,;9;7.,\*(0?@T.

# ;,\*%06,9B7\*02\*07496%“]2\* ,?7%\*4%7()%;-\*F.2.7\*0((” (1892A.)V.h.O%;A.S7 \*=U>;2>' ;74%2(%7%'.)%\*',%-. 2%7\*'8-\*;7\*)-(J4%2(> ,?3\*'2>0?B(0S92-T(F(;>J(; ,')(>2(%02.2%A\* \*-491.ED%F;4%6?,2\*( ;7\*)-(J4%2(> \*=D%=( \*A()%;-(B.J.-\*2\*0%42\*;7%F.O%;A.S7;)(7.', )7\* \*4A.2(J04.J,(.%;>( (J0%2>7;>3\*6 ,')(>2(%0\*-491.ED%F %A\* ;4%6? ( ,4%J9'87.7% 934.12%2(F%A\* \*4A.2\*.,# ;>J( ;H7(0\*2\* ;\*=22\* =\*8@%J2.)%2(%34(6.,.'4.J'())2?0.;3%--7.034.,('82\*F3\*;7.2\*,-(S(J)%;-\*A\* ,\*;3(7.2(>6'>2\*40.'82\*A\*4.J,(7(>\*4A.2(J0..PA\*4.=\*7?：“]=\*72\*%2((.2.7\*0((-S(J)%;-\*09,\*;3(7.2(E”,”i9-\*,\*6;7,\*3\*S(J)%;-\*09,\*;3(-7.2(E6%7%F@-\*'82\*A\* ,\*J4.;7.”,”k-\*'82?%7(3?”(649A(%2%;'(J2.)(7%'82?F,-'.6,4.J,(7(%2.9)2?B\*;2\*,S(J)%;-\*A\* ,\*;3(7.2(>.

1.h.X.,2(T-(F(1895c1969AA.);?A4.'=\*8@9E4\*'8,4.J,(7((S92-T(\*2.'82\*F.2.7\*0(( )%\*',%-.34(0%2(7%'82\*-J.6.).0;3\*47(,2\*F34.-7(-. ]2,3%4,%?34%6\*'1('0%7\*6.2.7\*0()%;- \*A\*.2.'(J.3\*'\*1%2(F(6,(1%2(F7%'.;3\*47;0%2..

!,(A.7%'82.>S92-T(>\*4A.2(J0.))%\*',%-.34%6;7.,'>%7;\*=\*F;'\*129E;( ;7%0902\*A\*\*=4.J2?B ;7\*4\*2 (B.4.-7%4(;7(-%A\*6%>7%'82\*;7(.#2.;7\*>D%%,4%0>,- ;\*1.'%2(E,2%34%6;7.,'>%7;> ,\*J0\*12?0,--\*0-7\* \*62\*0\*34%6%'%2((('3\*2>7((6.78%3\*'29E,; ;\*=U%0'ED9EB.4.-7%-4(;7(-9.1%;%A\*62>)4%J0%42\* =\*8@%4.J2\*\*=4.J(; ;%6%2(F \*=\*4A.2(J0))%\*',%-.34%6;7.,-'>%72%-\*7\*4?%J.74962%2(>6'>,?>2%2(>-\*2-4%72?B B.4.-7%4(;7(-2%7\*'8-\* ,;%A\* \*4A.2(J0.,2\*6.1% %A\* \*76%'82?B S92-T(F.X0%22\*3\*H7\*09;3%T('(;?%;F).; ;74%0>7;>34%6;7.,(786\*;7.7\*)-2\*)%7-(%7\*'-%,?(2;7490%27?6'>=\*% ;\*,%4@%22\*F3\*2>7(F2\*F\*34%6%'%22\*;7(B.4.-7%4(; -7(-4.J'())2?B H%'0%27\*,6,(A.7%'82\*F S92-T(( )%\*',%-. [2;3].

.G\$'(8\$:/-H7\*2.9.- \*=\*62\*0(J2.34.,'%2(F9)%2(>\*6,(A.7%'82\*F S92-T(( )%\*',%-. ]2.(J9).%7\* ;\*=22\*;7(;74%\*2(>7%'.)%\*',%-. =(6(2.0(-9( ;7.7(-9\*3\*42\*-6,(A.7%'82\*A\*.33.4.7.,4.J'())2?B9;\*',(>B%A\*3\* ;%62%,2\*F1(J2(, ;3\*47(,2\*-3%6.A\*A()%;-\*F,S(J-9'8794\*F,34\*(J,\*6;7,%22\*F(0%6(T(2;-\*F34.-7(-. ]62.-\*7%'\*)%\*',%-.34(H7\*04.;;0.74(,%;>2%--7\*)-. ('(;7%0.7\*)%-, .--T%'\*;72?F0.-4\*,-\*3()%;-(F \*=U%-7, ,-\*7\*4\*0(J9).%7;>6,(1%2(>%A\* \*76%'82?B).;7%F(H%'0%27\*,0%B.2()%;-\*% ;\*;7\*>2(%-\*7\*4?B;9D%;7,%22\*J.,(;7\*72.).'82?B9;\*',(F(J0%4%2(>.

(J9)%2(>-(2%7(-(-;74%2(%(6,(1%2(>7%'.)%\*',%-. (\*76%'82?B%A\*).;7%F--T%'\*;72\*F(;7%0?,34\*;74.2;7,( ,\* ,4%0%2(. ]2\*;2?0 >,'>%7;>.2.'(J6,(1%2(F(3\*'\*1%2(F)%%\*',%-. ,34\*;74.2;7,%\*72\*;(7%'82\* ;\*0.7()%;-\*F(3\*6,(12\*F(2%3\*6,(12\*F);(;7%0--\*46(2.7%A\*7%'..

i.;;0.74(,.>7%'\*)%\*',%-. (%A\*6,(A.7%'829E.-7(,2\*;78 ; ;\*,4%0%22?B0%7\*6\*'A()%;-(B3\*J(T(F,0\*12\*-\*2;7.7(4\*,.78,)7\*7%40(2:\$'(8\$:/2.(=\*%%(2S\*40.7(,%26'>6\*7.'82\*A\*(34%60%72\*A\* \*=U>;2%2(> ;9D2\*;7(6,(A.7%'82\*F S92-T(( )%\*',%-. ]23\*J,\*'>%7, ;\*62\*F;7\*4\*2?,6\*;7.7\*)2\* ;74\*A\*3\*6\*F7(-S(J)%;\*09 ;\*6%41.2(E;.0\*A\*3\*2>7(>“6,(1%2(”,. ;649A\*F c,2%;7( ,;0?;'H7\*A\*7%40(2.7\*),7\*34(,2\*;7>,2%A\*J2.2(>\*%;7%;7,%22?B6,(1%2(>B ;\*=;7,%22\*1(\*A\* \*4A.2(J0..

]4A.2(J0 )%'\*,%-. , - - (J,%;72\*, 0\*1%7 =?78 34%6;7., '2 , ;\*,4%0%22\*F 2.9-% 4.J'())2?0( ;3\*;\*=.0(, \*=U%-7(,2\*B.4.-7%4(J9ED(0( 4.J2\*\*=4.J2?% %A\*H' %0%27?. [.-, , ).;72\*;7(, %A\* 0\*12\* \*3(;? ,.78 , 7%40(2.B, B.4.-7%4(J9ED(B 0(-4\*,-\*3());-9E ( 9'874.0(-4\*,-\*3());-9E ;749-7949, .7.-1% 4.J'())2?% -. )%;7,%22?% ( -\*'());7,%22?% %A\* B.4.-7%4(;7(-. ]62.-\*, - - (J,%;72\*, ,;>-\*% 7.-\*% \*3(;.2(% 6\*'12\* =?78 2%4.J4? ,2\* ;,>J.2\* ;\* ;749-794\*F %A\* 6%>7%'82\*;7(, \*3(;? ,.0\*F 34( 3\*0\*D( H7(B B.4.-7%4(;7(-. \_ H7\*F 7\*)-( J4%2(>, 34%6;7., '>%7 J2.)(%7'82?F (27%4%; =\*'%% 6%7.'82\*% 4.;;0\*74%2(% ; \*62\*F ;7\*4\*2? 0\*4S\*'A());-(B ( S92-T(\*2.'82?B, . ; 649A\*F ;7\*4\*2? S(J());-(B ;,\*F;7, 7%' . 1(,\*A\*)%'\*,%-. P;'( H7( ;,\*F;7, . ( ;'%6\*,.78 , ;(;%702\*0 %6(2;7%, 0\*12\* 3\*'9)(78 6\*;7.7\*)2\* \*4(A(2.'829E 0\*6%'8 J2.2(F \* 1(,\*0 7%' )%'\*,%-. # ;\*6%41.2(( H7\*F 0\*6%' ( , 7.-\*0 ;'9).% , 6\*'12? =?78 ;,%6%2(> \* S(J());-(B B.4.-7%4(;7(-. B 6,(1%2(F )%'\*,%-. , . 7.-1% \* %A\* =(,\*'A());-(B, , ).;72\*;7( S92-T(\*2.'82\*-0\*4S\*'A());-(B \*;\*=22\*;7>B. \_ H7\*F 7\*)-( J4%2(>, ;7.2\*(,7;>3\*2>72?0 7.-\*% 2.34., '%2(% , - - -(2%7(-. 1(,\*A\* 7%' )%'\*,%-. .

# @ (4\* \*0 ;0? ;'%' ;\* ,. -(2%7(-. >, '>%7;> ).;78E 0%B.2(-, , -'E).ED9E 6(2.0(-9 ( ;7.7(-9. \_ H7\*F 7\*)-( J4%2(>, %;'( A\*,\*4(78 \* 7%' )%'\*,%-. , 3\*'2% 4.T(\*2.'82?0 0\*1%7 \*-J.78;> 3\*6B\*6 -H7\*09 3\*2>7(E, -\*7\*4?F \*B, .7? , %7 -(2%0.7(-9, 6(2.0(-9 ( ;7.7(-9 7\*A\* \*=U%-7., -\*7\*- 4?F \*62\*,4%0%22\* 0\*1%7 >, '>78;> ( 34%60%7\*0 =(,\*'A());-(B 2.9-. ]62.-\* 34( H7\*0 ,3\*'2% 6\*39;7(0\* \*62\*,4%0%22\*% ( ;'%6\*,.2(% (=,\*'A());-(B, ( 0%B.2());-(B ;,\*F;7, 7%' )%'\*,%-. , -\*7\*4\*% >, '>%7;> 7.- (0 1% 0.7%4(. '82?0, S(J());-(0 7%'\*0, - - (0 >, '>E7;> ( , ;% 649A(% 7,%46?% 7%' .. M\* , 7\* 1% ,4%0> ;\* ,%4@%22\* \* )%, (62\*, )7\* 7%' )%'\*,%-. \*=' .6.%7 02\*A(0( 7.- (0 ( ;,\*F;7, - 0(, -\*7\*4?B 2% (0%E7 , ;% 649A(% (J,%;72?% , 34(4\*6% 7%' .. V\*H7\*09 ,3\*'2% 3\*2>72\*, )7\* 6'> 7\*A\*, )7\*=? 3\*'9)(78 -.-9E-'(=\* 6\*;7.7\*)2\* ;\* ,%4@%229E 0\*6%'8 ;74\*%2(> 7%' )%'\*,%-. ( %A\* 6,(1% 2(F, 2%\*=B\*6(0\* 34(2>78 \*34%6%' %22?%, 6\*;7.7\*)2\* ;74\*A(% \*A4.2())%2(> ( 6\*39D%2(> .

\_ \* ,%4@%22\* \* )%, (62\*, )7\* , ;% 4.2% (J,%;72?% 0%7\*6\*'A());-( ;3\*;\*=? ( 34(%0? \*3(;.2(> 7%' )%'\*,%-. ( %A\* 6,(1%2(F, 34(0%2>0?% , 0\*4S\*'A((, S(J(\*'A(( (=(\*0%B.2(-, , 2.'7\*>D%0 ;'9).% 2% 0\*A97 >, '>78;> ,3\*'2% -\*44%-72?0( . 1\*4S\*'A());-\*( S(J(\*'A());-\*( \*3(;.2(% 7%' )%'\*,%-. , - - (J,%;72\*, ;74.6.%7 ;'(@-\*0 =\*'8@ (0( 2%7\*)2\*;7>0( ( 2% 0\*1%7 =?78 ( ;3\*'8J\*, .2\* 34( 34(0%2%2( ( ;%48%J2?B .2.'(7());-(B 0%7\*6\*, ( 3\*6B\*6\*, . \_ 649A\*F ;7\*4\*2?, =(,\*0%B.2());-(% B.4.-7%4(;7(- ( 6,(1%2(F ( 3\*'1%2(F 7%' )%'\*,%-. 2% 0\*A97 =?78 34(J2.2? 7.- 1% , 3\*'2\*F 0%4% .6%- ,.72?0( 34( (B ( ;3\*'8J\*, .2((. h(J());-( ;74\*A(% 0%7\*6? \*3(;.2(> 6,(1%2(F ( 3\*'1%2(F 7%' )%'\*,%-. 2% >, '>E7;> 7.- \* ,?0( 34( \*3(;.2(( %A\* 0\*4S\*'A());-(B ( S(J(\*'A());-(B 3.4.- 0%74\*, 3\*,-\*'8-9 , =(,\*0%B.2(- 4.;;0.74(, .E7;> 6,(1%2(> . =,\*' E72\* 7,%46?B 7%' , -.-\* ,?0, - - (J,%;72\*, 2% >, '>%7;> -.- 7%' )%'\*,%-. , 7.- ( \*76%'82?% %A\*H' %0%27?. " . - (J,%;72\* , =(,\*0%B.2(-, 7%' )%'\*,%-. ( 4.J'())2?% %A\*H' %0%27? 0\*A97 0\*6%'(4\*,.78;> , (6% \*=U%-7\*, 0.7%4(. '82\*F (' ( ;(;%70? 7.- 2.J?, .%0?B 0.7%4(. '82?B 7\*)-. ]62.-\*, - - (J,%;72\*, 7%' )%'\*,%-. , ;\*62\*F ;7\*4\*2?, 2%, \*J0\*12\* 6\*;7,%42\* 34%6;7., (78 , , (6% . =,\*' E72\* 7,%46\*A\* 7%' . (' ( ;(;%70? 7%' . "4\*0% 7\*A\*, 34( , ;%B ;3\*;\*=. B \*3(;.2(> 7%' )%'\*,%-. ( %A\* 6,(1%2(F ;'%69%7 9)(7?, .78 3.4.0%74? 6,(1%2(F 2% 7\*'8-\* %A\* \*76%'82?B 7\*)-%, 2\* ( 6,(1%2(% 4>6. ;\* ,%4@%22?B T%' ;72?B H' %0%27\*, , 7.- (B -.-, 2.34(0%4, 49-. , 2\*A., 79\*', (D% ( 7.6. !49A(0( ;\* ,.0(, (2S\*40.T(> \* 6,(1%2(( \*76%'82?B 7\*)-% 7%' )%'\*,%-. ).D% , ;%A\* \*-J?, .%7;> ( ;-. 1%22\*F ( 2%6\*;7\*,%42\*F. # ;% H7\* \*)%28 9; \*12>7 34%6;7., '%2(% \* 7%' )%'\*,%-. , \* , ;%F 6\*;7932\*F '(7%4.794%. V\*H7\*09, \* )%, (62\*, )7\* 2.;7.' \* ,4%0> 0%7\*6\*'A());-( =\*' )%'7-\*A\* ( \*=U%-7(,2\*A\* .2.'(J. 7\*A\* 3\*2>7(F2\*A\* .33.4.7., -\*7\*4?F B.4.-- 7%4(J9%7 6, (A.7%'829E S92-T(E )%'\*,%-. .

".16.> 2.9-. (0%7 ;,\*F \*=U%-7 ( 34%60%7 (J9)%2(> ( 3\*2>7(F2?F .33.4.7, -\*7\*4?F 9;74.2>%7 4.J'())2\*% 3\*2(0.2(% ( 7\*'-. ,.2(% 34\*S%;;(\*2.'82?B 7%40(2\*, 34( \*=D%2(( ;3\*T('(;7\*, . 34%3\*6., .7%'%F ;9).D(0(>. # ;.0\*0 @ (4\* \*0 ;0? ;'%' ""\*34%6%' %2(% 3\*2>7(>)" c H7\* '\*A());-.-> \*3\*4.T(>, , 34\*T%; ;% -\*7\*4\*F 4.;-4?, .%7;> ;\*6%41.2(% 3\*2>7(>. \_ '%69%7 \*70%7(78, )7\* ""\*34%6%'-% 2(% 3\*2>7(> 2% ;78 4.J ( 2., ;%A6. 6.22\*% ( 2%(J0%22\*%".

A?/48/L\$1 - ;(;%0. 0%B.2(J0\* , 6, (A.7%'82\*F S92-T((, \*=%;3%)(, .ED.> 7.-\*% (J0%2%2(% % B.4.-7%4(;7(- ('( ;3\*;\*=\* , 34\*>, '%2(>, -\*7\*4\*% 2.34., '%2\* 2. 3\*, ?@%2(% HSS%-7(,2\*;7( % S92-T(\*2(4\*,.2(> ; T%'8E 3\*66%41.2(> A\*0\*%;7.J(;. \*4A.2(J0. )%'\*,%-. ( %A\* 2%4., 2\*, ;2\*A\* 7%40\*6(2.0());-\*A\* ;\* ;7\*>2(> 3\* \*72\*@%2(E - \*-491.ED%F ;4%6%.

**SS**-@(+/'\$&(2:\$(+/6/:8(6\$28\$:\$ ?\*\$T('SC &(-\*(:/ - H7\* 0%4? (JO%22(> 0%B.2())%\*-A\* ;\*7\*>2(> 6, (A.7%'82\*F S92-T(( )%\*',%-. 2. 94\*,2%T%'\*;72\*A\* \*4A.2(J0. (0.7%4(. '82\*F 7\*)-( (' ( ;7%0? 0.7%4(. '82?B 7\*)%-.).

**SU286- 8/** - H7\* 7.-%\* -. )%;7,\* , -\*7\*4\*% \*34%6%'>7;> ; -\*4\*;78E 6, (1%2(> T%274. 0.; ; 7%' . )%\*',%-. , %A\* \*76%'82?B J, %28%, (' (7\*)%- 7%' . , (J=4.22\*F ;(;7%0% \*7;)%7., . 7.-1% ; -\*4\*;78E (' ( ,4%0%2%0 %A\* 6, (A.7%'82\*F 4% .-T(( , \*7,%7 2. -.-\*F-' (=, 2%@2(F 4.J64.1 (7%'8.

**EU**-2=\$\*-28> - H7\* 7.-%\* 6, (A.7%'82\*% -. )%;7,\* )%\*',%-. , -\*7\*4\*% B.4.-7%4(J9%7 %A\* 4.=\*7\*- ;3\*;\*2\*;78 ( 0\*1%7 34\*>, '>78;> (0 2. 34\*7>1%2(( \*34%6%'%22\*A\* ,4%0%2(, \*T%2(78 %A\* 0\*12\* 7\*8-\* 34( ;74\*A\*F 4%A'.0%27.T(( J.6.22?B =( \*0%B.2())%\*- (B B.4.-7%4(;7(- 6, (A.7%'82?B 6\*F- ;7, (F.

**V\$!**-28> - H7\* ;3\*;\*2\*;78 )%\*',%-. , ?3\*'2>78 6, (1%2(> , ;9;7., .B ; , \*J0\*12\* =\*'8@%F .03'(796\*F.

**V**-@(-28/#\$2 - ;\*7\*>2(% 6, (A.7%'82\*F S92-T((, \*=%;3%)(, .ED%% 3\*;\*7\*>2;7,\* ,2974%22%F ;4%6? \*4A.2(J0. , 9; \*', (>B %A\* .-7(, 2\*A\* ( 6(2.0())%\*- \*A\* ,J. (0\*6\*F;7, (> ; , 2%@2\*F ;4%6\*F.

**V6/\*\$8/L\$-** 'U( #\*/\$@-?(C28\*\$I 7%' . )%\*',%-. B.4.-7%4(J9E7;> ;\*\*72\*%@2(%0 %A\* A4. , (7.- T(\*22\*F 0.; ; ? ; 0.; ; \*F d%0' (, . 7.-1% ;\*\*72\*%@2(%0 0.; ; %A\* \*72\* ;(7%'82\* 3\*6, (12?B ) ;7\*F - J, %28% , , -\*7\*4?% \*34%6%'>E7 \* ;\*=22\* ;7( 0%7.=\*' (J0. %A\* \*4A.2(J0., 7(3 , ? ; @%F 2%4, 2\*F 6%>7%'8- 2\* ;7( ( %A\* 6, (A.7%'82?% , \*J0\*12\* ;7(.

**V6/\*\$8/L\$-** 'I X'(6J\$I -\*' ( )%;7, %22\* B.4.-7%4(J9%7 J.3. ; 4.=\*7\* ;3\*;\*2\* ;7( ;(;7%0? , \*=' .- 6.ED%F 2% -\*7\*4\*F 0. ; ; \*F ( 3\*62>7\*F 2.6 d%0' %F ( ' ( ;(;7%0? , ;\*7\*>D\*F (J \*76%'82?B 7\*)% )2?B 0. ; ; , J. (0\* ; , >J.22?B 0%169 ; \*=\*F 9349A(0 ( ;(' .0(, (' ( ;(;7%0? , 0. ; ; ? -\*7\*4?B , J. (0\*6\*F ;7, 9> 0%169 ; \*=\*F , \* , %4@ .E7 \*34%6%'%229E 4.=\*79 J. ; )%7 4% .-T(( ; ; \* (B ; , >J%F.

**Y\*\$J/8**(=>' /I /: 8\*\$'-28> - H7\* =( \*'A( )%\*- ;-( 6%7%40(2(4\* , .22?F 94\* , %28 34\*>, '%2(> 6, (A.- 7%'82?B ;3\*;\*2\* ;7\*F ( 6, (A.7%'82?B , \*J0\*12\* ;7\*F , \*=9; '\* , '%22?F A%2\*7(3())%\*- ;-( 0( ( S%2\*7(3(- )%\*- ;-( 0( \* ; \*%22\* ;7>0( \*4A.2(J0. )%\*',%-. .

**Y\*\$J/8**(=>'U( \*-#@- T'-28\$ - H7\* ; '\*1( , @(% ; > , \*4A.2(J0% )%\*',%-. , 34\*T% ; ; S('A%2J., \*27\*A%2J., \*=9)%2(> ( 74%2(4\* , -( 4%'82?% 34%63\* ; ?' - ( - , ?3\*'2%2(E 6, (1%2(F ; \*34%6%'%2- 2?0( =(\*0%B.2())%\*- ;-( 0( B.4.-7%4(;7(- 0(.

**Y\*\$J/8**(=>'-( ?(C28\*\$ ( - H7\* 7.-%\* 34\*>, '%2(% 6, (A.7%'82\*F .-7(, 2\* ;7( )%\*',%-. , -\*7\*4\*% (0 \* ; \*J2.2\* ( T%'%2.34. , '%22\* 2. 4%@2(% -.-\*F-' (= -2-4%72\*F 6, (A.7%'82\*F J.6.)( (7%B2())%\*- ;-\*% 6\*F;7, (% , ;4%, 2\* , .7%'82\*% 6\*F;7, (% - T%'874%2(4\* , \*)2\*A\* 34\*T% ; ; .)

**Y\*\$J/8**(=>' /I ?\$28- '\$I - \*62\* , 4%0%22\*% ; \*-4.D%2(% 0?@T .A%2(;7\* , ( .27.A%2(;7\* , , ;34\*- , \*16.%7;> ;3.J0\*0 (= ? ;74?0( 7(-\*\*=4.J2?0( 6, (1%2(>0( ) , 0?@%)2\*F .-7(, 2\* ;78E , 6'(7%'8- 2\* ;78E \*7 1 ; ( =\*'%'%.

**Y\*\$J/8**(=>'U( 24-2-I'-28\$ - H7\* 3\*7%2T(. '82.>, 2\* 2% 4%' (J\* , .22.> 34%64. ;3\*'1%22\* ;78 )%\*',%-. - 7\*09 (' ( (2\*09 34\*>, '%2(E 6, (A.7%'82\*F S92-T((.

**Y\*\$J/8**(=>'U( 28(6- 8\$4\$ - \*62\*\*=4.J2\* 3\* , 7\*4>ED(% ;> 2%T%'%2.34. , '%22?% , =% ; ; 0? ; '%2- 2?% 6, (1%2(>, 2%4%6-\* 34\*6\*'1.ED(% ;> 6'(7%'82\*% , 4%0> , 9D%4= 649A(0 S\*40.0 6, (A.7%'82\*F .-7(, 2\* ;7( )%\*',%-. .

**Y\*\$J/8**(=>'U( :/&(28\*/ - H7\* \*76%'82?% , -. )%;7, %22\* 4.J' ( )2?% ;7\*4\*2? 0\*7\*4(- ( )%\*',%-. , -\*7\*4?% 34\*>, '>E7;> (0 , \*62(B ( 7%B 1% =(\*0%B.2())%\*- ;-( B B.4.-7%4(;7(- B, (0%E7 \*6(2 ( 7\*7 1% (J0%4(7%'8 ( ; B\*62?% .2.7\*0())%\*- ;-( % , =( \*'A( )%\*- ;-( ( 3 ; (B())%\*- ;-( % 0%B.2(J0? \*% ; 3%)%2(> ( 4%' (J.T((.

**Y\$'/@/\$&(2:\$(+/6/:8(6\$28\$:\$ ?\*\$T('SC &(-\*(:/ - H7\* 0%4? , 2%@2(B ( , 2974%22(B , J. (0\*6\*F;7, (F )%\*',% )%\*- ;-\*A\* 7%' . (0.7%4(. '82\*F ;(;7%0?) , \*34%6%'>ED(% 34())(2? %A\* 6, (1%2(F.**

**Z(28** - 9'87942\* 6%7%40(2(4\* , .22\*% H- ;34% ; ; (, 2\*% 6, (1%2(% , \*=\*J2. ) .ED% %34%6%'%22\*% 69@% , 2\*% , ;\*7\*>2(% , ;3\*'8J9%7;> \*=? )2\* 6'> 34(6.2(> 6\*3\*'2(7%'82\*F , ?4.J(7%'82\* ;7( 4%)(.

**[@46\$'8\$'J** - \*62. (J S\*40 .6.37.T(( , ?4.=\*7.22.> 9 )%\*',%-. , 34\*T% ; ; S('A%2J.. V4\*>, '>7;> , , ) ;72\* ;7( , , , (6% 34( , >J.22\* ;7( 4%=%2- . - 0.7%4( (\*7T9). X0%7 =\*'8@\*% J2. )2(% , B\*6% 2\*40. '82\*A\* S\*40(4\* , .2(> )%\*',%-. , 34\*T% ; ; \*27\*A%2J.. ] ;2\* , .2. 2. A%2\*7(3())%\*- ;-( B ( S%2\*7(3())%\*- ;-( B 2\*F4\*=( \*'A( )%\*- ;-( B 0%B.2(J0.B 34( , ?-.2(> 4.J' ( )2?B ;(;7%0 1( , \*A\* \*4A.2(J0.. # 34\*T% ; ; 4.J, (7(> )%\*',%-. J. -'.6? , .%7;> , \* ;2\* , 9 0%B.2(J0\* , 3.0>7( . #\* 02\*A\*0 ='.A\*6.4> H7\*09 )%\*',%-. ;3\*;\*2\* =\*9).78;>.



G\$'(@/8\$&(2:\$ (+/6/: 8(6\$28\$:\$ ?\*\$T('SC &(-\*(:/ - H7\* 0%4? 3\*'\*1%2(> ( 6, (1%2(> , 34\*;74.2;7,% ( , \* ,4%0%2( (34\*;74.2;7,%22?%, ,4%0%22?% ( 34\*;74.2;7,%22\*-,4%0%22?%) 7%' . )%\*',%-. (0.7%4(. '82\*F 7\*)-( (' ( ;(;7%0? 0.7%4(. '82?B 7\*)%-.).

Кинетический потенциал организма человека – H7\* =(('\*A(%);-(F 4%J%4, \*4A.2(J0., 3\*7%2T(- . '82.>, 2\* 2% 4%.' (J\*,.22.> 34%64.;3\*'\*1%22\*;78) %\*',%-. - 7\*09 (' ( (2\*09 34\*>, '%2(E 6, (A.- 7%'82\*F S92-T((.

G--6?\$/L\$1 ?\*\$T('SC - 9; '\* ,2?F 7%40(2, 3\*- .J?, .ED(F ;7%3%28 ;\*A'. ;\*,.2(> -(2%0.7(- )%);-(B ( 6(2.0(%);-(B B.4.-7%4(;7(- 6, (A.7%'82\*A\* 6%F;7, (> 34( 4%@%2(( 6, (A.7%'82\*F J.6.)( (-\*\*46(2.7 7\*)%- 7%' ., 74.%-7\*4(F, 9A\*', , ;9;7.,.B, ;-\*4\*;7%F ( 9; -\*4%2(F 6, (1%2(> 0.; ; J,%28%, 7%' ., 6%F;7,9ED(B ;(' , 0\*0%27\* , ;(' , (2%4T(\*22?B B.4.-7%4(;7(- 6, (1%2(> J,%28%, 7%' . ( 7.6).

G--6?\$/L\$- ''U(24-2-I'-28\$ -H7\* 7.-(% ,4\*16%22?% 34%63\*;?'-( , \*4A.2(J.T(( 6, (A.7%'8- 2\*F S92-T((, -\*7\*4?% \*34%6%'>E7 %%;\*\*7,%7;7,(% =( \*0%B.2(%);-(0 74%=\*,.2(>0 - 4%.'(J.T(( 6, (A.7%'82?B J.6.2(F, (0%ED(B \*34%6%'22?% -(2%0.7(%);-(% ( 6(2.0(%);-(% 3.4.0%74?, ( 34( H7\*0 3\*J, \*'>E7) %\*',% -9 (J=(4.78 \*37(0. '82?%;3\*;\*=? 4%@%2(> 6, (A.7%'82?B J.6.), 0(2(0(J(49> ;,\* ( H2%4A%7(%);-(% J.74.7?.

G--6?\$/L\$- ''I 286;: 8;6/ ?\*\$T('SC - H7\* J.-\*2 (27%A4.T(( -(2%0.7(%);-(B ( 6(2.- 0(%);-(B ;749-794 , %6(2\*F ;(;7%0% 6, (A.7%'82\*A\* 6%F;7, (>.

D-: -28> - H7\* 7.-%\* -. )%;7,\* , -\*7\*4\*% 3\*J, \*'>%7) %\*',% -9 4%@.78 6, (A.7%'82?% J.6.)(, B.4.-7%4(J9ED(%);>=\*'8@\*F ;' \*12\*;78E, =?;74\*F ;0%2\*F ,2%@2(B 9; '\* , (F ( 74%=9ED%\* \*7 2%A\* ;\*\*7,%7;7,%22\* =?;74\*F ( ;\*A'. ;\*,.22\*F ; (J0%2>ED(0(;> 9; '\* , (>0( ;0%2? B.4.-7%4(;7(- \*\*46(2.T(\*22\*F ;749-794? ( 6, (A.7%'82\*A\* ;\*7.,. , \*(B ;\*=;7,%22?B 6%F;7, (F.

D-: -@-L\$\$ - .7(,2?% 3%4%0%D%2(>7%' .) %\*',%-. , 34\*;74.2;7,% 34( 3\*0\*D( 4.=\*7? 0?@T , 4.J'()2?B 9; '\* , (>B, J. (0\*6%F;7, (> ; A4., (7.T(\*22?0 3\*'%0 d%0' (.

\\ / '\$4;=IL\$\$ - \*\*46(2.T(\*22\*-' \*12?% 6, (1%2(> -(;7( ( 3. '8T%.,

\\ / '(6'U( ?\*\$T('\$I - 2%\*=? )2.> (34(96' ( , >, , ?)942.>) S\*40. T%'%2.34., '%22\*A\* 6, (A.- 7%'82\*A\* 6%F;7, (> , \*J2(-.ED.> , 4%J9'87.7% , -'E)%2(> ;7%4\*7(32\*A\* 6%F;7, (> , T%'%2.34., - '%22\*% 3\* , %6%2(%).

\\ (8/I-=\$#@ - 34\*T%; ; 6, (1%2(> 1( . \*F 0.7%4(( 2. ;9=0(-4\*94\*,2% %% \*4A.2(J.T((, -\*7\*4?F ;\*34\*,\*16.%7;> , ?6%'%2(%0 B(0(%);-\*F ( 7%3\* , \*F H2%4A((, 34%,4.D.%0\*F ,3\* ;'%6;7,(( , H%' -74\*- 0.A2(729E H2%4A(E -' %7\*- , 7-.2%F ( \*4A.2\*, , \*% ;3%)(, .ED9E (B 4.=\*7\*;3\*;\*=2\*;78, 34%\*=4.- J9%09E, , ; , \*E \*)%4%68, 6. '%% , A4., (7.T(\*229E H2%4A(E , ;%A\* 7%' ., \*% ;3%)(, .ED9E 6, (1%2(% 2. 0.-4\*94\*,2% \*4A.2(J.T(( \*4A.2(J0. ) %\*',%-. .

\\ (+/'\$&(2:\$ (?\*\$T('\$I - (J0%2%2( 3\*'\*1%2(> 7%' . (0.7%4(. '82\*F 7\*)-( (' ( ;(;7%0? %A\* 0.7%4(. '82?B 7\*)%-.); 7%)%2(%0 ,4%0%2( \*72\*; (7%'82\* 649A(B 7%' ( ;(;7%0 \*7;)%7.). V\*6 6, (1%2(%0 3\*2(0.E7;> , ;>-(% (J0%2%2(> , \*4A.2(J0%, . 7.-1% ;0%2. %A\* ;\* ;7\*>2(F.

\\ - 8-6\$:/ - ;\* , \*-932\*;78 (;(;7%0.) 6, (A.7%'82?B ;3\*;\*=2\*;7%F ( 6, (A.7%'82?B , \*J0\*12\*;7%F ) %\*',%-. .

^ (J(' 86-4\$1 - 0%4. , %4\*>72\*;7( 3\*66%41.2(> \*34%6%'22\*A\* ;\* ;7\*>2(> ;(;7%0? , 2%;0\*74> 2. S(J(%);-(% 34%3>7;7, (> - %% ;9D%;7,\* ,.2(E (2.34(0%4 A\*0\*%;7.J(; \*4A.2(J0., ;7.=( '82\*;78 =( \*0%B.2(%);-\*F ;(;7%0? 934.12%2(> ( 7.6).

' 8-J(' 8\$&(2:\$ 4-2=?-\*/8(=>'-( K-6@\$6-\*/'\$(:\$'(8\$&(2:-J- 4-8('L\$/=-/ -6J/'\$#@/ &(-\*(:/ - H7\* 34\*T%; ; %A\* 4.J, (7(> , 9; '\* , (>B %;7%;7,%22\*F 6, (A.7%'82\*F .-7(,2\*;7(, 4%A'.0%2- 7(49%0?F 34%(09D%;7,%22\* 7\*'8-\*=?7\*,?0( ( 7496\*,?0( 6, (A.7%'82?0( 6%F;7, (>0(, 4.J'()2?0( S\*40.0( \*4A.2(J.T(( S(J(%);-\*A\* , \* ;3(7.2(> , 6%7;-\*0 ;.69, 94\*- .0( S(J(%);-\*F -9'8794? , 4.0-.B @-\*'82\*F 34\*A4.00?, . 7.-1% S(J(%);-\*F .-7(,2\*;78E , 4.J'()2?B S\*40.B .-7(,2\*A\* \*76?B. ( 4.J, '%)%2(F.

' I6/8 '/I 2\*I#> - 0%B.2(J0 (2S\*40.T(\*22\*A\* \*% ;3%)%2(> ;(;7%0? 934., '%2(> .6.37.T(%F \*4A.2(J0. , ;4%6% %A\* \*%=(7.2(>.

b\$=/ - H7\* 0%4. , J.(0\*6%F;7, (> 7%' .) %\*',%-. , T%'\*0, \*76%'82?B %A\* ) .;7%F - J,%28%, (' ( 649A(B=( \*H%'0%27\* , (- '%7\*- , 7-.2%F , \*4A.2\*, ) ; A4., (7.T(\*22?0 (' ( H%' -74\*0.A2(72?0 3\*'%0.

b 8\$@;=\$6;(@-( 6/#\$8\$(:\$'(8\$&(2:-J- 4-8('L\$/=-/ -6J/'\$#@/ &(-\*(:/ - ;3%T('82\* \*4A.- 2(J\*,.22?F 34\*T%; ; 3%6.A\*A(%);-\*A\* 934., '%2(> , , \* ;2\*;9 -\*7\*4\*A\* 3\*'\*1%2? 7%B2\*'A(( J.2>7(F S(J(%);-(0( 934.12%2(>0( 4.J'()2\*F =( \*0%B.2(%);-\*F 2.34., '%22\*;7( ; T%'8E 6\*;7(1%2(> , ? , \*- \*A\* J.6.22\*A\* 94\*,2> S\*40(4\*,.2(> \*34%6%'22?B 2., ?-\*, ( 90%2(F, 4.J, (7(> 6, (A.7%'82?B , \*J0\*12\*;7%F, \*% ;3%)%2(> T%'%2.34., '%22\*A\* ( -\*274\*(49%0\*A\* 34\*7%- .2(> .6.37.T(\*22?B 34\*-

T%;\* , 0\*4S\*\*A( )% ;-(B ( S92-T(\*2.'82?B ;(;7%0.B , ;\* ,%4@%2;7 , \* ,.2(> 6 , (A.7%'82\*F S92-T(( J.2(0.ED(B;>.

**b 86;: 8;6U ?\*J/8(=>'U+ ?(C28\*\$C, 6(2.0(-. 34\*>, '%2(F -\*7\*4?B , ;\*4%,2\* ,.7%'82\*F 6%>7%'82\*;7( 2.(=\*'%%) .;7\* 0\*6%'(49%7;> , ;3\*47( ,2\*F 74%2(4\* , -%:**

- *управления* ((2S\*40.T(\*22\*-3;(B\*\*A( )% ;-> ;749-794.) - \*% ;3%)( , %7;> 7.-\*F S92-T(\*-2.'82\*F .-7( ,2\*;78E 2%4,2\*F ;(;7%0? , , 4%J9'87.7% -\*7\*4\*F 9 )%' , %-. S\*40(49%7;> 0\*7( , ( T%'8 6%F;7 , (> , 2. \*;2\* , .2(( 3%4%4.=-\*7-( (2S\*40.T(( ( J ,2%@2\*F ;4%6? ;74\*(7;> \*3%4.-7( ,2?F \*=4.J , -\*2T%379.'82.> 0\*6%'8 6%F;7 , (> , 34(2(0.%7;> 4%@%2( , \*;9D%;7 , '>%7;> 34\* , %4-. 4%J9'87.7\* , ( -\*44%-T(> H%'0%27\* , 6%F;7 , (> ;

- *исполнения* (.274\*3\*0\*7\*42.> , =( \*0%B.2( )% ;-> , . 7. - 1% ;749-794. A4. , (7.T(\*22?B , J.(0\*6%F;7 , (F) - , -'E) .%7 ;(;7%0? A%2\*7(3( )% ;-(B ( S%2\*7(3( )% ;-(B 2. , ?-\* , . 7. - 1% , 4\*16%2-2?B ( 34(=\*4%7%22?B , 34\*T%; ;% % ;7%;7 , %22\*A\* =( \*'A( )% ;-\*A\* 4.J , (7(> , \*=9)%2(> ( 74%2(-4\* , -( , -\*03'%- ;\* , 3\* , %6%2)% ;-(B 6 , (A.7%'82?B 4% .-T(F ( 6 , (A.7%'82?B 90%2(F , ;\*6%41.-D(B 7.-(% H%'0%27? 34\*> , '%2(> 6 , (A.7%'82\*F .-7( ,2\*;7( , -. 3\*J2?% 4% .-T(( , 34\* ;74.2-;7 , %22?% 3%4%0%D%2(> 7%' . \*34%6%'%22\*F 0. ; ;? , A4. , (7.T(\*22\*0 3\*' , '\*-\*0\*T(( , 0.2(-39')>T(\*22?% ( 649A(% 6 , (1%2(> , \*=% ;3%)( , .ED(% 4%@%2(% 6 , (A.7%'82\*F J.6.)( ( 6\* ;7(1%-2(% T%' ( ;

- *обслуживающие структуры* - \*% ;3%)( , .E7;> , J.(0\*6%F;7 , (%0 ;(;7%0 , \*=;'91( , .ED(B .33.4.7 6 , (1%2(F ;(%46%)2\*- ;\* ;96( ;7\*F , 6?B.7%'82\*F , 3(D% , .4(7%'82\*F , H26\*-4(22\*F , ?-6%'(7%'82\*F ( 64.)).

**d(-2=- T('\$(-> , '>%7;> \*62\*F (J B.4.-7%4(;7(- S(J( )% ;-\*A\* 4.J , (7(> , -\*7\*4.> 6.%7 \*=U--7( ,2\*% 34%6;7. , '%2(% \* 34\* ;74.2;7 , %22\*F \*4A.2(J.T(( 0\*4S\*\*A( )% ;-(B ;\* ;7. , '>ED(B \*4A.2(J0. )%' , %- , 34\*3\*4T(>B , -\*2;7(79T(\*2.'82?B \* , \*=%22\* ;7>B 7%' , \*2\* 7. - 1% (0%7 , ?4.1%22?% 3\*' , -?% , \*J4.:72?% , H72\*2.T(\*2.'82?% ( (26( , 69.'82?% \* , \*=%22\* ;7(.**

**d\$:** - ,2%J.32% , \*74? , (;7\*% , 3\* ,7\*4>ED% ;> 6 , (1%2( , , -\*7\*4% , \* , '%-.E7;> \*76%'82?% A493-3? 0?@T. ]2\* 2.3\*0(2.%7 2\*40.'82\*% -\*46(2(4\* , .22\*% 6 , (1%2( , , .48(49%7 3\* (27%2; ( ,2\*;7( ( \*7' ) .%7;> \*7;97;7 , (%0 4(70( )2\* ;7( . ]2 0\*1%7 , 4%0%22\* 3\*6. , '>78;> 9; ( '( %0 , \*' ( ( \*72\* ;(7%'82\* '%A-\* (0(7(49%7;> . # %A\* \* ;2\* , % '1(7 -4.7-\* , 4%0%22\*% ;\*-4.D%2( 0?@T? , 2%3\* ;4%6;7 , %22\* , ?J? , .ED%F 6.22\*% 6 , (1%2( , '(=\* \*62\* , 4%0%22.> .-7( , .T(> 0?@T?-A\*2(;7. ( .27.A\*2(;7. 6'(7%'82\* ;78E 50-500 0;.

**N8 -@=('\$(- , 4%0%22\*% ;2(1%2(% 6 , (A.7%'82\*F .-7( ,2\*;7( ( 6 , (A.7%'82?B , \*J0\*12\* ;7%F )%' , %- , , ?J , .22\*% 7.-(0 34\*> , '%2(%0 6 , (A.7%'82\*F S92-T(( , -\*7\*4% 34% , ?@.%7 3\*7%2T(' %A\* \*4A.2(J0. , 6.22?F 3%4(\*6 , 4%0%2(.**

**\$#\$&(2:- (6/#\*\$8\$(-7%40(2 , (0%ED(F 6 , .7\*' - \* , .2(>:**

- 34\*T%; ;4.J , (7(> , S\*40(4\* , .2(> 6 , (A.7%'82\*F S92-T(( )%' , %- , S('A%2%J% (' \*27\*A%2%J% ;

- ;\* ;7\*>2(% 6 , (A.7%'82\*F S92-T(( )%' , %- , -\*2-4%72?F 0\*0%27 , 4%0%2( , B.4.-7%4(J9%0\*% S(J( )% ;-(0( 3.4.0%74.0( 7%' ;' \*1%2(> , 6 , (A.7%'82\*A\* .33.4.7. , ;(;7%0 , %A\* \*=;'91( , .ED(B.

**f'(6J\$1 - ;3\* ;\*=2\* ;78 7%' . ;\* , %4@.78 4. =\*79 (J.3. ; 4. =\*7\* ;3\* ;\*=2\* ;7( ;(;7%0?).**

**f' 86-4\$1 - ;7%3%28 93\*4>6\*)%22\* ;7( H%'0%27\* , ;(;7%0? (-' )% ;7 , %22.> 0%4. 2%\*34%6%'%2-2\* ;7( . V4( 0.- ; (0.'82\* , \*J0\*12\*0 3\*4>6- H%'0%27\* , , ;(;7%0% % H2%4A(> 0.- ; (0.'82. , . H274\*3(> 4. , 2. 29'E.**

**S\$-@(+/'\$&(2:/1 :-66(:L\$1 K;:'L\$- '/=>'U+ '/6;H('\$C ?\*J/8(=>'-J- /44/6/8/ - H7\* 3%6.A\*A( )% ;-(F 34\*T%; ; , 2.34. , '%22?F 2. (J0%2%2(% 34\* ;74.2;7 , %22\*F \*4A.2(J.T(( 7%' . )%' , %- , 9349A\* , >J-(B ; , \*F;7 , ;-%'72?B 0?@T , =( \*6(2.0(- ( ;9;7. , 2\*- ; , >J.)2\*A\* .33.4.7. 2. \* ;2\* , % J2.-2(F \* , '>2(( A4. , (7.T(\*22?B , J.(0\*6%F;7 , (F , S(J( )% ;-(B 934.12%2(F 4.J' )2\*F =( \*0%B.2( )% ;- -\*F 2.34. , '%22\* ;7( 2. A%\*0%74(E 0. ; , -(2%7(-9 7%' . , %A\* =( \*0%B.2( )% ;-(% B.4.-7%4(;7(- , 4%A(- ;74(49%0?% ; ;3\*'8J\* , .2(%0 7%B2( )% ;-(B ;4%6;7 , . , 7\*0.7(J(4\* , .22?B 6(.A2\* ;7( )% ;-(B -\*03'-- ;\* , . 7. - 1% 3\*H7.32\*A\* =( \*0%B.2( )% ;-\*A\* 0\*2(7\*4(2A. ; (2S\*40.T(%F \* 4%J9'87.7.B 3%6.A\*A( )% ;- -\*F 6%>7%'82\* ;7(.**

**V6/\*\$8-'\$:/ - ;(;7%0. ;4%6;7 , ( 0%7\*6\* , HSS%-7( ,2\*A\* ( ;3\*'8J\* , .2(> H2%4A(( A4. , (7.T(\*2-2\*A\* 3\*' > , (27%4% ;.B \*=% ;3%)%2(> 2\*40.'82?B 9; \* , (F 1(J2%6%>7%'82\* ;7( , ;\*B4.2%2(> ( 3\*66%41.-2(> J6\*4\* , 8> )%' , %- , ;\* , %4@%2;7 , \* , .2(> %A\* 6 , (A.7%'82\*F S92-T(( ( , J.(0\*\*72\*@%2(> \*4A.2(J0. ; \*-491.ED%F ;4%6\*F.**

V6\*\$8/L\$- ' /I 86(' \$6-\*/ - ;3%T(. '82\* \*4A.2(J\*, .22?F 34\*T%; ; 3%6.A\*A()); - \*A\* 934., '%- 2(>, \*, \*2\*, 9 - \*7\*4\*A\* 3\* \*1%2? 0%7\*6? (27%2; (, 2?B J.2>7(F ;3%T(. '82?0( S(J)% ;-(0( 934.1- 2%2(>0( ; T%'8E 6\*;7(1%2(>, ?; \*- \*A\* J.6.22\*A\* 94\*, 2> S\*40(4\*, .2(> \*34%6%' %22?B 2., ?-\*, ( 90%2(F, 4.J, (7(> 6, (A.7%'82?B , \*J0\*12\*;7%F ( ; \*, %4@2;7., 6, (A.7%'82\*F S92-T(( J.2(0.ED(B- ;>. YSS%-7(, 2\*;78 %% 6\*;7(A.%7;> 397%0 ( ;3\*8J\*, .2(> 0%7\*6\*, -4(7%4(. '82\*A\* 0\*6%' (4\*, .2(> 7.- (B 9; '\*, (F A4., (7.T(\*22?B , J.(0\*6%F;7, (F 6, (A.7%'82\*F S92-T(( )%'\*, %-., ; 2%@2%F ;4%6\*F, - \*7\*4?% B.4. -7%42?, 2.34(0%4, 6'> %A\* =969D%F ;3\*47(, 2\*F ;\*4%, 2\*, .7%'82\*F (' ('E=\*F 649A\*F 34\*S%; ;(\*2. '82\*F 6, (A.7%'82\*F 6%>7%'82\*;7(.

Y\*\$J/8(=>' /I 6(/I\$=\$8/L\$I - 34\*T%; ; , \*; ;7.2\*, '%2(>, 4%0%22\* 974.)%22?B ; , \*F;7, 6, (A.- 7%'82\*F S92-T(( ;4%6;7., 0( S(J)% ;-\*A\* , \*;3(7.2(> ; T%'8E ;\*B4.2%2(> J6\*4\*, 8> ( \*=%;3%)%2(> 2\*40. '82?B 9; '\*, (F 1(J2%6%>7%'82\*;7( \*4A.2(J0. )%'\*, %-..

M?-6-\*>(2I(6(J/g h \$( \$ /:;;@;=\$6;g h \$( 8(+ '-=-J\$\$ - H7\* 34\*T%; ; 7.- \*F \*4A.2(J.T(( 74%2(4\*, -( 2. \*;2\*, % (J=(4.7%'82\*A\* ( ;74\*A\* 2.34., '%22\*A\* 3\*6B\*6. - \*7=\*49 ( ;3\*8J\*, .2(E ;3%T(. '82?B 3%6.A\*A()); -(B ;4%6;7., - \*7\*4.> 3\*J, \*'>7 2% 7\*'8-\* ;\*B4.2>78, 2\* ( 2.-.3'(.78 4%J9'87(49ED(F HSS%-7 3%6.A\*A()); -(B , \*J6%F;7, (F, . 7.-1% 9)(??.78 3%4;3%-7(, 2?% J.6.) ( S(J)% ;-\*A\* , \*;3(7.2(> ( ;3\*47(, 2\*F 3\*6A\*7\*, -(.

M?-6-\*>(:-66\$J\$6;g h \$( 8(+ '-=-J\$\$ - H7\* 7.-> \*4A.2(J.T(> 3%6.A\*A()); - \*A\* 34\*T%; ; , - \*7\*4.> \*;2\*, ? , .%7;> 2. , ?=\*4% ( 4%.'(J.T(( 7.- (B (27%2; (, 2\*;7%F, \*=U%0\*, ( 2.34., '%22\*;7%F 3%6.A\*A(- )%; -(B , \*J6%F;7, (F, - \*7\*4?% >, '>E7;> .6%- , .72?0( 7%-9D%09 ;\*7\*>2(E -(2%7(- ( 7%' . ( 2.34., - '%2? 2. ( ;34., '%2( ( 0%ED(B;> \*7-'\*2%2(F , ;\*7\*>2( ( J6\*4\*, 8> )%'\*, %-..

M?-6-\*>(K-6@\$6;g h \$( 8(+ '-=-J\$\$ - H7\* 7.- ( ;3\* ;\*=? \*4A.2(J.T(( 3%6.A\*A()); - \*A\* 34\*T%; ; , - \*7\*4?% 3\*J, \*'>E7 ;S\*40(4\*, .78 1(J2%22\* , .12?% 6, (A.7%'82?% S92-T(( ( \*9; '\*, '%22?% (0( S(J)% ;-(% -.)%;7., )%'\*, %-., ;3%T(. '82?% 7%\*4%7()); -(% J2.2(>, 2.34., (78 (B 2. 3\*, ?@%2( % 94\*, 2> S(J)% ;-\*A\* ;\*7\*>2(> ( \*=%;3%)%2( 2\*40. '82?B 9; '\*, (F 1(J2%6%>7%'82\*;7( \*4A.2(J0. J.2(0.ED(B;>.

[ ' 8('2\$\*/I \*4A.2(J.T(> 934., '%2(> 74%2(4\*, \*)2?0 34\*T%; ; \*0 c B.4. -7%4(J9%7;> , ?; \*- \*F HSS%-7(, 2\*;78E, %% 4%J9'87.7? 6\*;7(A.E7;> J. ;)%7 3\*, ?@%2(> (9'9)@%2(>) -.)%;7, %22?B 3\*- .J.- 7%'%F, . 2% J. ;)%7 9, %' ( )%2(> J.74.7 ( 3\*74%=%'2(> J2.) (7%'82?B 4%;94;\*, .

G\$'(\$8(6/4\$I - \*62\* (J 2.34., '%2(F 34(-.62\*F -(2%J(\*' \*A(, , \*;2\*, % - \*7\*4\*A\* '%1(7 ;3%T(S()); -(F 0%7\*6 2.34., '%22\*A\* 4%A9'(4\*, .2(> A4., (7.T(\*22?B , J.(0\*6%F;7, (F \*4A.2(J0. )%'\*, %-.( ;4%6?, T%'8E - \*7\*4\*A\* >, '>7;> 34\*S(' .-7(- ( '%' )%2( J.=\*'%, .2(F, . 7.-1% 4%.=( ('- 7.T(>, 4%0%22\* 974.)%22?B ; , \*F;7, 4.J' ( )?B S92-T(F, ;4%6;7., 0( ;'91.7.2%34\*(J, \*'82?% 6, (1%- 2(> (3.; ; (, 2.> -(2%J(7%4.3(>) ( 6, (A.7%'82?% 6%F;7, (> (34\*(J, \*'82?% 6, (1%2(>), S(J)% ;-(% 934.12%2(> (-7(, 2.> -(2%J(7%4.3(>).

G-66(:L\$I J6/\*\$8/L\$- ' 'U+ #/\$@-?(C28\*\$C 8(=/ &(-\*(:/ - H7\* ;3\* ;\*= 34(, %6%2(> 0.; ; ? %A\* 7%' . ( 0.; ; , \*76%'82?B \*72\*; (7%'82\* 3\*6, (12?B %A\* J, %28%, , 7.-\*% ;\*72\*%2(, - \*7\*4\*% \*=%; - 3%) (, . '\*=? J.6.22% (B , J.(0\*6%F;7, (% ; T%'8E HSS%-7(, 2\*A\* 4%@(2(> - \*2-4%72?B 6, (A.7%'82?B J.6.).

G-66\$J\$6;g h /I J\$@'/28\$:/ - H7\* ;( ;7%0. (J=(4.7%'82\* 2.34., '%22?B S(J)% ;-(B 934.12%- 2(F, 3\*J, \*'>ED(B - \*44(A(4\*, .78 S92-T(\*2. '82?% ( 0\*4S\*' \*A()); -(% 2.49@%2(> 6, (A.7%'82\*A\* .33.4.7., A%0%74(( 0. ; ; 7%' . )%'\*, %-., , ?3\*2>0?B 34( ;74\*A\*F 4%A'.0%27.T(( A4., (7.T(\*22?B , J.(0\*6%F;7, (F \*4A.2(J0., ; 9)%7\*0 (26(, (69. '82?B =(0%B.2())%; -(B \*; \*=%22\*;7%F 0\*7\*4(- ( J.2(0.ED(B;>, . 7.-1% ;3%T(S(- ( (B .6.37.T(\*22?B 3%4%;74\*%-.

| (8-?\$/ \*B, .7?, .%7 - \*2-4%72?% 34(0? ( ;3\* ;\*=? , 'A\*4(70? (' ( 34., (' . , ?3\*'2%2(> \*34%- 6%' %22?B, 3\*; '%6\*, .7%'82?B ;3%T(. '82\*-2.34., '%22?B 6%F;7, (F, 3\*J, \*'>ED(B 4%@(78 ( ; '%6\*, .- 7%'8; -9E J.6.)9.

| -?;=> - \*72\*; (7%'82\* ;.0\*;7\*>7%'82?F H' %0%27 - . \*F-' (= \*7%B2\*' \*A((, ;( ;7%0?, 2%\*=B\*6(0?F 6'> 34(, %6%2(> , A.40\*2( )2% ;\*7, %7;7, (% 4.J0%4\*, ( ;9D2\*;7( T%' \*A\* ( %A\* ) ;7%F.

i 6\$'L\$4 - ( ;B\*62\*% 3\*' \*1%2( (34., (' \*), \*34%6%'>ED% ( 4%A'.0%27(49ED% 6%>7%'82\*;78 3%6.A\*A. ( 9)%2(-. , ;\*7, %7;7, (( ; T%'>0( S(J)% ;-\*A\* , \*;3(7.2(>, J.- \*2\*0%42\*;7>0( 4.J, (7(> \*4A.2(J0. )%'\*, %-.( 9; '\*, (>0( %A\* , J.(0\*6%F;7, (> ; \*-491.ED%F ;4%6\*F.

i 6-K\$:/: 8\$:/ ' /6;H(' \$C J(-@(\$6\$ \$ @/22 8(=/ &(-\*(:/ - H7\* 7.-> 7%B2\*' \*A(> 3%6.A\*A(- )%; - \*A\* 34\*T%; ; , - \*7\*4.> \*;2\*, ? , .%7;> 2. 3\*;74\*%2( ( HSS%-7(, 2?B 34\*A2\*;7()); -(B =(0%B.2(- )%; -(B 0\*6%' %F 34\*;74.2;7, %22\*F \*4A.2(J.T(( 7%' . )%'\*, %-.. \*72\*; (7%'82\* ;\*0.7()); - \*F ;( ;7%0? - \*46(2.7, 2.34., '%22.> 2. ;\*, %4@2;7, \* , .2(% %A\* 6, (A.7%'82\*F S92-T((.



**b\$28(@/ K\$#\$&(2:-J- \*-24\$8/'\$1 4.;**;0.74(,.;7;> -.- \*62. (J ,.12%F@(B ).;7%F ,;%F ;\*T('82\*F, \*=D%;7,%22\*F (A\*;96.4;7,%22\*F ;(;7%0? ,\*;3(7.2(>, 3\*J, '\*>ED.> - .16\*09) '%\*, %-9 9-4\*3 '>78 J6\*4\*, 8%, HSS%-7(, 2\* 4.J, (, .78 ( ,\*;,%4@%2;7, \*, .78 6, (A.7%'82?%, \*J0\*12\*;7( , \*4A.2(-)%; -\*0 %6(2;7, %\*, ;,%0( 649A(0( 90;7,%22?0(, 24.,;7,%22?0( ( H;7%7( )%;-(0( -\*03\*2%27.0( ;, %\*F '( )2\*;7(.

**b4-68 - \*62.** (J 2.(=\*'%% .-7(, 2?B S\*40 34\*>, '%2(> S(J( )%;-F -9'8794? , 1(J2( \*=D%;7,., B.4.-7%4(J9ED.>,>, 34%16% ,;%A\*, ;\*4%, 2\*, .7%'82\*F 6%>7%'82\*;78E, , -\*7\*4\*F \*34%6%'22?0 \*=4.J\*0 \*T%2(, .E7;> ( ;\*3\*;7., '>E7;> 4%J9'87.7? 34\*T%;;. S(J( )%;-\*A\* ,\*;3(7.2(> -.- \*76%'82?B (26(, (6990\*, , 7.- ( T%'?B -\*'%'7(, ,.

**b4-68\$\*'- (2-6(\*'-\*/'\$(- H7\* \*62.** (J 2.(=\*'%% HSS%-7(, 2?B S\*40 J.2>7(F S(J( )%;-(0( 934.12%2(>0(, \*7' ( ).ED.>,> ( ;-9;7,%22\* \*4A.2(J\*, .22?0 ( 4%A'.0%27(4\*, .22?0 \*34%6%'22?0( 34., ('.0( ;\*3%42( )%;7, \*0 S(J-9'87942(-\*, ( ;3\*47;0%2\*, , 4.0-.B %6(2\*A\* ( T%'\*;72\*A\* 3%6.A\*A( )%;-\*A\* 34\*T%;;. S(J( )%;-\*A\* ,\*;3(7.2(>, 2.34., '%22.> 2. .-7(, (J.T(E 0?; '7%'82\*F ( 6, (A.7%'82\*F 6%>7%'82\*;7( ; T%'8E ,\*;,%4@%2;7, \*, .2(> (B 6, (A.7%'82\*F S92-T(( ( 9-4\*3'%2(> J6\*4\*, 8>.

**b-6(\*'-\*/8(=>/'1?(18(=>'-28> - H7\* 6(2.0( )%;- .> ;(;7%0. ;3%T(S( )%;-( \*4A.2(J\*, .22?B , - .16\*0 , (6% ;3\*47. 6, (A.7%'82?B 6%F;7, (F, \*4(%27(4\*, .22?B 2. 4%@%2( 7%B 6, (A.7%'82?B J.6. ), -\*7\*4?% 34%63( ;.2? ( 4%A'.0%27(4\*, .2? 9; '\* , (>0( ( 34., ('.0( ;\*4%, 2\*, .2(F.**

**b4(L\$/=>'U( ;46/T ('\$1 34%6;7., '>E7 ;\*=\*F 7.-9E ;(;7%09 0\*6%'6F 6, (A.7%'82?B 6%F;7, (F, -\*7\*4.> , 3\*'2\*F 0%4% ;\*B4.2>7 A\*0\*0\*4S2?% ( (J\*0\*4S2?% \*72\*%2(> ;=( \*0%B.2( )%;-F A4., (- 7.T(\*22\*F ;749-794\*F ;\*4%, 2\*, .7%'82?B 934.12%2(F. !\*- .J.7%'8;7, \*0 .6%- , .72\*;7( H7(B 0\*6%'6F T%'>0 ( J.6.).0 ;3%T('82\*F 3\*6A\*7\*, -( 0\*1%7 ;'91(78 7\*'8-\* ;\*\*7,%7;7, (% 0\*6%'(49%0?B (0( 6, (A.7%'82?B 6%F;7, (F \*=U%-7(, 2\* 9;7.2\*, '%22?0 -4(7%4(>0 3\*6\*=(> ;7%0( ( ( 2?0( -\*03\*2%2-7.0( ;\*4%, 2\*, .7%'82\*F 6%>7%'82\*;7(.**

**b4-68\$\*'-UC 6(#;=>8/8 (4%J9'87.7 ;\*4%, 2\*, .2(F) - H7\* 7. -%\* 34\*>, '%2(% 6, (A.7%'82\*F S92-- T(( ;3\*47;0%2\*, , 9; '\* , (>B (26(, (69.'82\*A\* ( ( -\*'%'7(, 2\*A\* ;\*3%42( )%;7, ., 4%A'.0%27(4\*, .2-2\*A\*, (J0%4>0\*A\* ( \*T%2(, .%0\*A\* , ;\*\*7,%7;7, (( ; 34., ('.0( ;\*4%, 2\*, .2(F, -\*7\*4\*% \*7' ( ).%7;> ;3%T(S( )%;-(0( 6'> - .16\*A\* , (6. ;3\*47. =( \*0%B.2( )%;-(0( B.4.-7%4( ;7(-.0( 6, (A.7%'82?B 6%F-7, (F ( \*;\*=\*22\*;7>0( ;3\*;\*=\*, 4%@%2(> 6, (A.7%'82?B J.6. ).**

**b 86; : 8;6/ 2-6(\*'-\*/8(=>'-C?(18(=>'-28\$ - H7\* J. -\*2 (27%A4.T(( H'0%27\*, ;\*4%, 2\*, .7%'8-2\*F 6%>7%'82\*;7(, -\*7\*4?% 0\*A97=?78 34%6;7., '%2? , , (6% ;(;7%0? 02\*A\*94\*, 2%, ?B 0\*2\*T%' , ?B 0\*6%'6F, \*=U%-7(, 2\* \*74.1.ED(B (%4.4B( )%;-(% ;;>J( 3; (B\*'A( )%;-(B, =( \*0%B.2( )%;-(B, S92-- T(\*2.'82\*-0\*4S\*'A( )%;-(B ( 649A(B -\*03\*2%27\*, 0\*7\*4(-, (\*=%;3%)(, .ED(B 9;3%2\*% 4%@%2( )%;\*2\*, 2?B 6, (A.7%'82?B J.6. ).**

**d(+ '-=-J\$1 - H7\* ;(;7%0. =( \*'A( )%;-(B, 0%6(T(2;-(B, 7%B2( )%;-(B, 3%6.A\*A( )%;-(B ( 649A(B ;3\*;\*=\*, ( ;4%6;7, (J0%2%2(> ;\*7\*>2(> 6, (A.7%'82\*F S92-T(( ( ;; \*F;7, \*4A.2(J0. ) '%\*, %-., 34\*T%;;% J.2>7(F S(J( )%;-(0( 934.12%2(>0(, \*;2\*, .22.> 2. J2.2(>B \* 0%7\*6.B ( 34(%0.B \*;9D%-7, '%2(> -\*44%-T(\*22\*-34\*S('.-7( )%;-(B, -(2%J(7%4.3%, 7( )%;-(B, ,\*;3(7.7%'82\*-\*=4.J\*, .7%'82?B ( 4%-4%.T(\*22?B 0%4\*34(>7(F.**

**d6('/ T(6U - H7\* 9;74\*F;7., (' ( 34(;3\*;\*=%'2(>, 34( 3\*0\*D( -\*7\*4?B 0\*6%'(49E7;> , 34\*T%;;% 74%2(4\*, -( 7% (' ( 2?% 9; '\* , (> =969D%F 4%'82\*F 6%>7%'82\*;7( \*=9).%0?B (2.34(0%4 ;\*4%, 2\*, .7%'82?% 9; '\* , (> , ?3\*'2%2(> ;3\*47(, 2?B 934.12%2(F). ]2( 3\*J, '\*>E7 2.34., '%22\* 34%\*=4.J\*, ? , .78 H2%4A(E , 2%2%F ;4%6? 7.- (0 \*=4.J\*0, )7\*=? \*2. 34(\*=4%7.' . 2%\*=B\*6(09E 6'> 97(' (J.T(( \*4A.2(J0\*0 3\*'J29E S\*409. [4%2.1%4? -'. ;;(S(T(49E7;> по назначению (9;74\*F;7,., 34(0%2>0?% ; T%'8E 4.J, (7(> \*34%6%'22?B 6, (A.7%'82?B ;3\*;\*=2\*;7%F, 7%B2( )%;-(% ;4%6;7,., ( ;3\*'8J9%0?% ; T%'8E 4.J, (7(> 6, (A.7%'82?B -.)%;7, ( ;(\*', ?B , \*J0\*12\*;7%F \*76%'82?B 0?@%2?B A4933); 9;74\*F;7,., 34%62.J2.)%22?% 6'> 934., '%2(> 34\*T%;;\*0 S\*40(4\*, .2(> ;3%T('82?B 6, (A.7%'82?B 2., ?-\*,); по направленности (2. \*; , %2(% A%\*0%74(( 6, (1%2(F, =( \*- (2%0.7( )%;-F (' (= (\*6(2.0( )%;-F ;749-794? 6, (1%2(F); по области моделирования, ; ( ;3\*'8J\*, .2(%0 0%B.2(-)%;-(B S.-7\*4\*, (4.J' ( )2?B 9; '\* , (F A4., (7.T(\*22?B , J.(0\*6%F;7, (F 7%' . ) '%\*, %-.), (2S\*40.- T(\*22?B S.-7\*4\*, ('A( )%;-(B ;B%0); по характеру информационного обмена ( ; 69='(4\*, .2(%0 \*=4.72\*F ; ,>J(, =%J 69='(4\*, .2(> \*=4.72\*F ; ,>J( ; ( ;3\*'8J\*, .2(%0 J,9-\* , ?B , ;9B\*, ?B ( 649A(B - .2.'\*, ; ,>J( ).**

**\$#\$&(2:/1 ;=>8;6/ - ) ;78 \*=D%) '%\*, %);-F -9'8794? , .12%F@(0( T%22\*;7>0( -\*7\*4\*F >, '>E7;> J6\*4\*, 8%, S(J( )%;-\*( 69B\*, 2\*% ;\*, %4@%2;7, \*' ( )2\*;7(.**

**\$#\$&(2:- ( \*-24\$8/'\$(- ;3%T('82\* \*4A.2(J\*, .22?F .-7(, 2?F 3\*J2., .7%'82?F 34\*T%;;, B.4.-7%4(J9ED(F;> 6,9;7\*4\*22\*F , J.(0\*; ,>J.22\*F 6%>7%'82\*;78E 3%6.A\*A. ( J.2(0.ED%A\*;> 3\* 3%4%6. )% ( 9; , %\*2(E -\*03'%-; . J2.2(F, 6, (A.7%'82?B 2., ?-\*, ( 90%2(F, 2.34., '%22?F 2.**

9-4%3'%2(%J6\*4\*,8>)%',%-. , 3\*6A\*7\*, -9%A\* - 74969, 34\*S%; ;(\*2.'82\*F 6%>7%'82\*;7( , 2%4.J4? , - 2\*F %%; ,>J( ; 24. . ;7,%22?0( , 0\*4.'82\*-H7( )%; -(0( ( ; \*T(.'82\*-3.74(\*7( )%; -(0( 9;74%0'%2(>0( \* =D%;7, . ( A\*;96.4;7, . .

**f:28('2\$\*'/I** \*4A.2(J.T(> 934. , '%2(> 74%2(4\* , \*)2?0 34\*T%; ;\*0 ; ,>J.22. ; 9, %' ( )%2(%0 %A\* - \*' ( )%;7,%22?B (J.74.72?B, 4%;94;2?B), 2.34(0%4 , 4%0%22?B, H2%4A%7( )%; -(B, 0.7%4(.'82?B, . 2% - . )%;7,%22?B (HSS%-7( , 2?B) 3\*-.J.7%'%F ( 4%J9'87.7\* , .

. #\* 02\*A(B ;74.2.B 0(4. , , -'E).> ( -4.(29, 9)%2(% \* 6, (1%2(( 7%' . )%\*',%-. , 2.;7\*>D%% , 4%0> 4.J, ( , .%7;> 3.4.'%'82\* ; =(\*0%B.2(-\*F. 1 2\*A( % ; \* , 4%0%22?% ; 3%T(.'( ;7? 34\* , \*6>7 ; , \* ( ( ; ; '%6\* , .2(> 2. ;7?-% .2.7\*0(( (=(\*0%B.2(- ( , ;74\*A\* 2% 4.J6%'>> H7( 6, % 2.9-( .

]T%2( , .> 3%4;3%-7( , ? 4.J, (7(> -(2%7(- ( , -4.(2% , ; '%69%7 \*70%7(78 , ?4.1%22?% 7%26%2T(( - 4. ; @ (4%2(E A%A4.S(( 4. ; 34\* ; 74.2%2(> T%274\* , ; 3%T(.'82?B ( ; ; '%6\* , .2(F , H7\*F \*=' ; 7( , , ) . ; 72\* ; 7( , 09T-% , R%42(A\* , % , !2%34\*3%74\* , ; -% ( 649A(B A\*4\*6.B ; 74.2? .

**D\$8(6/8;6/**

1. ".@9=. #. K. g(\*0%B.2(-. \* ; .2-( / ".@9=. #. K. - " (% , : M.9). 0(4, 2002. - 278 ; .
2. O.397(2 K. M. G4. , (7.T(\*22.> 74%2(4\* , - . / O.397(2 K. M. - " (% , : d2.22>, 1999. - 315 ; .
3. O.397(2 K. M. h\*40(4\* , .2(%0. ; ; ? ( 6(2.0(-. A4. , (7.T(\*22?B , J. (0\*6%F;7, (F7%' . )%\*',%-. , \*27\*- A%2%J% / K. M. O.397(2, #. K. " .@9=.. - " (% , : d2.22>, 1999. - 202 ; .

**A' '- 8/L\$\$**

*В статье представлен ретроспективный анализ формирования кинетики тела человека как системы знаний о двигательной функции тела человека. Авторы предлагают понятийный аппарат, который характеризует двигательную функцию человека.*

**G=g&(\*U( 2=-\*/:** кинетика тела человека, двигательная функция.

**A' / 8 - =!C D / 4 ; 8 ! ' . E ! 8 / = ! C G / H ; I / . G ! ' ( 8 \$ : / 8 ! = / = g ? \$ ' \$ .** У статті представлено ретроспективний аналіз формування кінетики тіла людини як системи знань про рухову функцію тіла людини. Автори пропонують понятійний апарат, який характеризує рухову функцію людини.

**G=g&-! 2=-\*/:** кінетика тіла людини, рухова функція.

**Anatoliy Laputin, Vitaliy K/shub/. Kinetics of Body of Man.** This article presents the retrospective analysis of human body kinetics development as the system of knowledge about the human body motor function. Authors propose the conceptual apparatus which characterizes the human motor function.

**Key words:** human body kinetics, motor function.