

Hkgh\gZy ijhn_kkbhgZevgZy h[jZah\ZI_evgh]jZffZ jZajZ[
n_^_jZevgh]h]hkm^Zjkl_ggh]h h[jZah\ZI_evgh]h klZg^ZjIZ ih k
ijhn_kkbhgZevgh]h h[jZah\Zgby KhpbZevgZy jZ[hIZ \oh^
]jmiiu ki_pbZevghkl_c Khpbheh]by b khpbZevgZy jZ[hIZ
Fbgbkl_jkl\Z h[jZah\Zgby b gZmdb JN hl fZy] < aZj_]b
Fbgbkl_jkl\hf xklbpb Jhkkbckdhc n_^_jZpbb <

J:KKFHLJ?GH

gZ aZk_↑ZgZ]h]bq_kdh]hHQM_©=ID^ahdhe < hl]

JZajZ[hIqbd
FZ]hf_^h\Z D F kl ij_ih^Z\ZI_ev IHQM ©=ID^a

J_p_ga_glu

B[jZ]bfh\=BB d w g ^hp_gl aZ\ DZn_^jhc wdhghfddb b
l_ogheh]bc >=B
JZfZgZ\Z : H d w g ^hp_gl dZn_^ju ©WdhghfbdZ b mijZ
F:>B

KH>?J@:GB?

I:KIHJL J::HQ?C IJFFU:MQ?;GHC >BKPBIIEBGU
KLJMDLMJ: B KH>?J@:GB? MQ?;GHC >BKPBIIEBGU
MKEH<BY?:EBA:PBBH=J:FFUMQ?;GHC >BKPBIIEBGU
DHGLJHMPBGD: J?AMEVL:LH< HK<H?GBY >BKPBIIEBGU
 :>:IL:PB Y J::HQ?C IJH=J:FFU IJB H;MQ?GBB EBP K H=J:GBG
<HAFH@GHKLYFB A>HJH<VY
 EBKL I?J?ML<?J@>?GBY :DLM:EBA:PBB J::HQ?C IJH=J:FFU
>BKPBIIEBGU

1. I:KIHJL J:;HQ?C IJH=J:FHQ?;GHC >BKPBIEBGU
I> WDHGHFBD:

1.1. H[eZklv ijbfg_gby jZ[hq_c ijh]jZffu
JZ[hqZy ijh]jZffZ mq_[ghc ^bkpbiebgZy_lky qZkgh\ghc
ijhn_kkbhgZevghc h[jZah\ZI_evghc k h j k l Z f u k N = H K H K I H
ki_pbZevgZy jZ[hIZ
JZ[hqZy ijh]jZffZ mq_[ghc ^bkpbiebgZ fh`_l [ulv bkihevah\Zg
- \ ^hihegbl_evghf ijhn_kkbhgZevghf h[jZah\Zgbb \ ijh
d\ZebnbdZpbb b i_j_ih^]hIh\db

F_klh ^bkpbiebgZ \ kljmdlmj_ ijh]jZffu ieb_khh\kjb_kg_pfb
a_gZ
Mq_[gZbkpbiebgZ I> WdhghfbdZ \oh^bl \ ijhkngh\ghc
ijhn_kkbhgZevghc h[jZah\ZI_evghc k h j k l Z f u k N = H K H K I H
ki_pbZevghklb KhpbZevgZy jZ[hIZ

1.3 P_eb b aZ^Zqb ^bkpbiebgZy_dmevlZIZf hk\h_gby ^bkpbiebgZ

P_eb dmjkZ
nhjfbjh\Zgb_ m klm^_glh\ l_hj_lbq_kdbo wdghghfbq_kdbo agZgb
knhjfbjh\Zlv m klm^_glh\ hkgh\gu_ f_lh^heh]bq_kdb_ iheh`_gb
hjjZgbaZpbb h[s_kl\Z b nhjf bo j_ZebaZpbb gZ jZaguo mjh\gyo
nhjfbjh\Zgb_ m klm^_glh\ ijZdlbq_kdbo gZ\udh\ b khA_Z^Zk_bmx
dmjkZ
knhjfbjh\Zlv ohayckl_ggu_ hkgh\u h[s_kl\Z
knhjfbjh\Zlv h[sb_ ijbgpbiu wdghghfbb
^Zlv ZgZeba kwdhghfbq_kdbf ijhp_kkZf ijhbkoh^ysbo \ h[s_kl\
knhjfbjh\Zlv hkgh\u agZgbc h fbjh\hc b hl_q_kl_gghc wdghghfb
bamqblv hkgh\gu_bihgZaZI_eb jZa\bIby fbjh\hc wdghghfbb b f
bkihevah\Zlv ihemq_ggu_ agZgby ijb bamq_gbb ^jm]bo gZmd b

< ijhp_kk_ hk\h_gby ^bkpbiebgZ m klm^_glh\klye`gu nh
h[s_ijhn_kkbhgZevghf_ggub]: HD

HD HjjZgbah\u\Zlv kh[kl_ggmx ^_yl_evghklv \u[bjZlv Ibih\u_
\uiheg_gby ijhn_kkbhgZevguo aZ^Zq hp_gb\Zlv bo wnn_dlb\ghk
HD JZ[hIZlv \ dhee_dlb_ b dhfZg^_ wnn_dlb\gh h[sZlvky k
ihlj_[bl_eyfb
HD ;jZlv gZ k_[y hl_lkl_ggghklv aZ jZ[hlm qe_gh\ dhfZg^u i
\uiheg_gby aZ^Zgbc

< j_amevlZI_ hk\h_gby ^bkpbiebgZ h[mqZkvsbcky ^he`_g
- jZa[bjZlv khpbZevghfwdhghfbq_kdhc]hkm^Zjkl\Z fZdjhwdhghfb
ihdZaZI_eyo wdghghfbq_kdh]hdjjhklZ h^bkgZevghc kbkl_fZo bgn
[_ajZ[hIZlv h[evghfwdhghfbq_kdh]hdjjhklZ h^bkgZevghc kbkl_fZo bgn
- \u^_eylv b hkhagZ\Zlv jhev dhIhjmX b]jZxl I[ghr`_ggy_\n
^_yl_evghklb]hkm^Zjkl\Z h]jZgbaZpbb b]jZ`^ZgBgZ

- hij_^_eylv hkh[_gghklb nhjfbjh\Zgby b nmgdpbhgbjh\Z
[x^`_lghc iheblbdb
- ijhba\h^blv jZkq_l ebqgh]h b k_f_cgh]h [x^`_lZ
- ijbf_gylk emq_ggu_ wdhgahgZg blyZdlbq_kdhc ^_yl_evghklb
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ijZdlbq_kdhyl_evghklbhp^eydb kh[kl_gguo wdhghfbq_kdbo ^_ck
ihlj_yl_ey qe_gZ k_fvb b]jZ`^ZgbgZ
- ieZgbjh\Zkms_kl\eylv ijhp_vkghkhrf p_s_Z eg m`^Zx sk_bfkwyf
< j_amev\hZkl_h_gby ^bkpbiebgu h[mqZxsbc_Zky ^he`_g
- p_eb]eZ\gijbgpbui jZa\p_hkym^Zjkl_gghc k_f_cghc ihe
n_^_jZevghf b j_]bhgZevghf mjh\gyo
- hkgh\gu_ ijb_gpbjhu_gby \aZbfhhlgkh_k_gbycfb
-]hkm^Zjkl_gguo hj]Zgh\ j_Zebamxsbo k_f_cgm x iheblb dm
k_f_c
- mijZ\e_gb_ hkgh\gufb b h[hjhlgufb kj_^kl\Zfb
- aZdhgh^Zl_evgu_ ijbgpbiu nhjfbjh\Zgby [x^`_lguo hlghr_gb
- khklZ\ fZl_jbZelym_uo\ b nbgZgkh\uo j_kmjkh\ hj]ZgbaZpbb
wnn_dlb\gh]h bkihevah\Zgby
- dZ_]hjbb k_f_c khpbZevgh]h jbkdZ
- agZlv nbgZgkh\mx kljmdlmjm b __ nmgdpbb
- hkh[_gghklb nhjfbjh\Zgby jZkij^_e_gby [x^`_lZ
[x^`_lZ
- hkh[gghklb nhjfbjh\Zgbb b jZkij^_e_gby ebqgh]h [x^`_lZ]jZ
- f_oZgbaf nhjfbjh\Zgby b jZkij^_e_gby k_f_cgh]h [x^`_lZ
- hkgh\gu_ we_f_glu [Zgdh\kdhc kbkl_fu JN
- agZhkgh\gu_ \b^u dj_^blh\ b ihkljh_gby dj_^blguo hlghr_gb
- jhev gZeh]h\hc kbklh_jfbjh\Zgbb nmgdpbhgbjh\Zgbb nbgZgk
[x^`_lghc kbkl_fu
- jhev kljZoh\uo dhfiZgb_klpZk_bkZ_gfby
- hkgh\gu_ZijZ\e_gby_jbgpbui nhjfbjh\Zgby_jk]h_kmgghc khpbZev
iheblbdb
- agZlv hkgh\gu_ gZijZ\e_gby fbjh\hc wdhgZfbdbb kljZg nkq_Zk
fbjh\h]h jugdZ

Ebqghklgu_ j_amevIZlu hk\h_gby ^bkpbiebgu
HkhagZxsbc k_[y]jZ`^Zgbghf b aZsblgbdhf _ebdhc kljZgu
ljhy\eyxsbc Zdlb\gmx]jZ`^Zgkdmx ihabpbx ^_fhgkljbjmxs
ijbgpbizf q_klghklb ihjha\hjqghklb wdhghfbq_kdb Zdlb\guc b n
klm^_gq_kdhf b l_jjblhjbZevghf kZfhmijZ\e_gbb \lhf qbke_gZ
ijh^mdlb\gh \aZbfh^_ckl\mxsbc b mqZkl\mxsbc \ ^_yl_evghklb h
Kh[ex^Zxsbc ghjfu ijZ\hilej^ndZsbk b^_ZeZf]jZ`^Zgkdh]h
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ijhy\e_gbyf ij_^klZ\bl_e_c km[dmevlmj hlebqZxsbc bo hl]j
^_\bZglguf ih_^_gb_f >_fhgkljbjmxsbc gj_ijbZkxsbc khjp_bZev
hiZkgh_ ih_^_gb_ hdjm`Zxsbo

<b^ mq_[ghc jZ[hlu	H[t_f qZkh\ HNH	H[t_f qZkh ANH
FZdkbfZevgZy mq_[gZy gZ]jmadZ \k	171	171
H[yaZI_evGZy \h \aZbfh^_ckl\bb k ij	116	32
\ lhf qbke_ nhjf_ ijZdlbq_kdhc ih^]		
L_hj_lbq_kdb_ aZgylby	42	
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bamq_gb_ l_dklZ mq_[gbdZ ebl_jZlmju \ l q q ik dhc^b i fZI_jbZeh\ bgnhjf_ZjZ\hggh kb =ZjZgl DhgkmevlZgxlk b hlq_l j_amevlZIZf ihbkdZ	16	
- j_r_gb_ aZ^Zq ih h[jZapm j_r_ aZ^Zq	7	
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mq_{gk ke_^h\ZI_evkdZygZjZ[hIZZ aZ^Zggufb ij_ih^Z\ZI_e_f ^ey k bamq_gby	10	
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L_fZlBq_kdbc ieZg b kh^_j^Zgb_mq_[gh]h fZl_jbZeZ b nhjfu hjjZgbaZpbb ^

GZbf_gh\Zgb_jZa^_eh\ b l_	Kh^_j`Zgb_ mq_[gh]h fZl_jbZeZ b nhjfu hjjZgbaZpbb ^	H[t_f \ qZkZ	Dh^u dhfi_l gpbc
1	2	3	4
JZa^_e Wdhghfbq_kdZy gZmdZ			HD HD 6 HD
L_fZ J_kmjkuZdlhj ihlj_[ghklb b [eZ]Z	Kh^_j`Zgb_ mq_[gh]h: fZl_jbZeZ	2	HD HD 6 HD
1	<_^_gb_ L_hj_lBq_kdb_ hkgh\u wdhghfbdb J_kmjku	2	
	ljZdlBq_kdh_ aZgyIb_	2	
1	Kmsgghklv wdhghfbq_kdb_ ihlj_[ghklb h[s_kI\Z Wdhghfbq_kdb_ j_kmjku nZdlhjuB b i h e v a h \ Z h k l b h k g ^ h i h e g b l _ e v g m x e b l _ j Z l m j m ^ e y f b i g Z] m l h \ d b d	2	
L_fZ Wdhghfbq_kd \u[hj b Zevl_jgZlB\gZ klhbfhklv	Kh^_j`Zgb_ mq_[gh]h fZl_jbZeZ	2	HD HD 6 HD
	Wdhghfbq_kdbc \u[hj H]jZgbq_gghklv j_kmjkh\ f_gh\Zy klhbfhklv :evl_jgZlB\gZy klhbfhklv	2	
	ljZdlBq_kdh_ aZgyIb_	2	
1	Hij_^_eblv ihlj_[bl_evkdmx b f_gh\mx klhbfhklv j_kmjkh\ \ wdhghfbd_ Wdhghfbq_kdbc \u[hj	2	
	KZfhklhyl_evGZy jZ[hIz	2	
1	ljhjZ[hldZ dhZ_gdylbc bkihevah\Zgb_ mq_[ghc b ki ih mq_[ghc ^bkpbielb_g ©Wdhghfbq_kdbc \u[hj b bkihevah\ZgZgbq_gguo j_akZjZg_guf ij_ih^Z\ZH^phlfh\b hl_lu gZ ^hfZrgb_ aZ^Zgby \ ibk bkihevahhZgfb_ - E j_kmjkuZ ^ey ihbkdZ mq_[gh]h fZl_jbZeZ	2	

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	2	>Zlv hij_^_e_gb_ kh[kl_gghklb Hij_^_eblv nhjfu b lbiu kh[kl_gghklb ljZ\h kh[kl\ km[t_dlu b h[t_dlu kh[kl_gghklb J_r_gb_ kblmZpb	2	
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	2	Ih^]hIh\b ©Kf_rZggZy kbkl_fZ b __©k f_klh \ kh\j_f_gghf fbj^a Bkihevah\Zlv hkgh\g ebl_jZImjm ih mq_[ghc ^bkpbiebgj_k	2	
L_fZ Dhgdmj_gpby nhjfu		Kh^_j`Zgb_ mq_[gh]h fZI_jbZeZ	2	HD HD 6 HD
	1	Dhgdmj_gpby \b^u f_lh^u b nhjfu :glbfhghihevgy	2	
		ljZdlbq_kdb_ aZgyIby	2	
	1	Hij_^_eblv iheh`bl_evgu_ _ kh\jr_ggZy g_kh\jr_ggZy d ih l_f_	2	
		KZfhklhyl_evgy jZ[hIZ	4	
	1	KhkIZ\e_gb_ dhgkli_fI bkihevah\Zgb_f -B	2	

		__ iheh`bl_evgu_. klhjhgua ^a		
	2	Ih^]hlh\biv dhgki_dlu ih aZ^Zggh\l_jfZfggZy dhygd mj_ iheh`bl_evgu_ kl@jghghfghghevgZy iheblbdZ@Gkpa^zh dhgdmj_gpby \ kh\j_f_gghf fbj_a L_fu gZ \u[hj J_d bklhqgbbd i_jbh^bq_kdb_ ba^Zgby ih wdhghfbd_ Z	2	
L_fZ		Kh^_j`Zgb_ mq_fZgh]bZeZ	2	HD
NZdlhjgu_ jug	1	NZdlhjgu_ jugghbdZiblZaZfeb ljm^Z^ijbgbfZI_ zvkI\	2	HD
dZiblZeZ a_f		IjZdlbq_kdb_ aZgylby	2	HD
ljm^Z b	1	AZkemrb\Zgb_ ^hdeZ^Z gZ l_fm ©NZdlhjgu_ jugdb wdhghfbdBKihevah\Zgb_ -B_gkmZg^by ihbkdZ bgnhjf nZdlhjguf juggzfaZgylbyo KhklZ\e_gb_ kijZ\hqgh] e_dpblZa[hj kblmZpbhgguo aZ^Zq	2	
ij_^ijbgbfZI_e		KZfhklhyl_evgy jZ[hIZ	4	
I\Z	1	KhklZ\e_gb_ ^hdeZ^h©NZdlhfjZfu_ jugdb b bo agZq wdhghfbdBpughd a_feb b a_f_evgy j_gIZ^a ©Jugh kkm^guc ijhp_gI^a ©Jughd ljm^Z b aZijZ^h]bgzfyZeZeZ ij[uev^a Ihbkd bgnhjfZpbb ih we_dljhguf bklh hkgh\ghc ebl_jZlmju ^ey ih^]hlh\dbg^hdeZ^h\ b khh	2	
	2	Bkihevah\Zgb_ mq_[ghc b ki_pbZevghc ebl_jZlmju]eZ\Zf mq_[guo ihkh[bc khklZ\e_gguf ij_ih^Z\Zl dhgki_dlf ih \hijhkZf l_fu e_dpbb KZfhklhyl_evgh khklhygbb nZdlhjguo jugdh\ \ kh\j_f_gghc wdhgh kblmZpbhgguo aZ^Zq	2	
JZa^_eJughqgZy wdhghfbdZ				
L_fZ		Kh^_j`Zgb_ mq_[gh]h fZI_jbZeZ	2	HD
Jughqguc	1	Kmsghklv jugdhZnbdpAZdhgu jugdZ kijhk b ij_^eh`_g	2	HD
f_oZgbaf		kijhkZ b ij_^eh`_gby		
		IjZdlbq_kdh_ aZgylb_	6	

	1	Jughd gklmkslv nmgdprbgb_J kblmZpbhgguo aZ^Zq K kijhkZ ij_^eh`_kbylZ\e_gb_ djb\hc kijhkZ b ij_^eh`_e jZ\gh\kbiy_^_eblv dZdhhju \ebyxl gZ kijhk gZ ij_^e kblmZpbhgguo aZ^Zq	2	
	2	AZkemrb\Zgb_ ^hdeZ^hKijgZk lb_faZdhg @klijh`keZ^`_g baZ ij_^eh`_gb_eyZnbq_kdh_ j_r_gblj_aZ^Zg_b_ jughqgh]h Hij_^_e_gb_ weZklbqghklb kijhkZ b ij_^eh`_gby JZ[hIZ k mq_[ghc b kijZ\hqghc ebl_jZlmjhc	2	
L_fZ Ihlj_[bl_evkd ij_^ihql_gb_ P_gZkhhbfhklv Ih\ZjZ		Kh^_j`Zgb_ mq_[gh]h fZI_jbZeZ	2	HD HD HD
	1	Ihlj_[bl_evkdh_ ij_^ihql_gb_ Ihe_aghklv Ih\ZjZ Nmgdpbb p_gu	2	
		IjZdlbq_kd aZgyIby	2	
	1	Hij_^_eblv nZdlhju \ebyxsbj[blgZvkdh_ ih\Q^h_g bZ ihlj_[bl_evkdh_ ij_^ihql_gb_" >AZZ\bkbfhklv jug ihlj_[bl_evkdh]h ij_^ihql_gby dZd jZ[hIZ_l ij_^eh`_ kblmZpbx ih ihlj_[bl_evkdhfm ij_^ihql_gbx < q baf_jy_lky" P_gZ b klhbfbklv ph\gZjZihlj_[bl_evkdZ klhbfbklv hij_^_eblv jZagbpm	2	
		KZfhklhyl_evgy jZ[hIZ	4	
	1	Bkihevah\Zgb_ mq_[ghc b ki_pbZeVeyhc b amlq_jZbr ©Ihlj_[bl_evkdh_ ij_^ihql_gb_ ihlj_[bl_ey^a dhgki ibkvf_ggjZq_hlu ih l@P_gZ b klhbfbklv Ih\ZjZ^a IhbK we_dljhgguf bklhqgbdZf bkihevah\Zgb_ hkgh\ghc e	2	
	2	Ih^]hIh\bkwh[s_ggZ_l_fm ©Ihlj_[bl_evkdbc \u[hj b ih Bkihevah\Zlv hkgh\gmx b ^hihegbl_evgy mx ebl_jZlmj ©P_ghh[jZah\Zgb_ \b^u p_g^a ©Ihe_aghklv Ih\Zj ihlj_[bl_evkdh_ ih_^_gb_^a B Bigley g hNZmj Key ihb bgnhjZpbb hkgh\gmx ebl_jZlre jrg ub ^brkillhegg b db	2	
L_fZ		Kh^_j`Zgb_ mq_[gh]h fZI_jbZeZ	2	HD

WdhghfbdZ ij_^ijbylby hj]ZgbaZpbhg ijZ\h\u_ nhjf	1	lj_^ijbylb_ nbjZ hkh[_gghklb kbkl_fijZ Hh]\Z_g mhzZfuk ij_^ijbylbc <b^u ij_^ijbgbfZylee kghklb	2	HD HD
		ljZdlbq_kdb_ aZgylby	4	
	1	Knjhfmebjh\Zlv kmjsgnijkbylby b_]h jhev \ jughg Hij_^_eblv deZkkbnbdZpbx ij_^ijbylbZkdj uij]ZaggZadZpb ijZ\h\u_nhjf ij_^ijbylbjchkm^Zjkl_ggu_ fmgbbpbiZe Zdpbhg_jgu_ b^j	2	
2	JZkdjulv \b^u ij_^ijbgbfZl_evkdhc b^u ylhfe v gchkkdbbo hj]ZgbaZpbc_ebblo rp_gb_ kbImZpbhgguo aZ^Zgbc	2		
L_fZ Hj]ZgbaZpby ijhba\h^kl\Z		Kh^_j`Zgb_ mqf_ZlgjhZ eZ	2	HD HD HD
	1	Hj]ZgbaZpby ijhba\h^kl\Z nmgdplbbi ubp fe bh^a Zh]Zg ijhba\h^kl\Z gh\gh h jhlguc dZibfZjebaZpby	2	
		ljZdlbq_kdh_ aZgylb_	2	
	1	Hij_^_eblv f_lh^u hj]ZgbaZpbb ijhba\h^kl\Z ijb_k ZfhjlbaZpbhggu_ hlqbke_gby ij_^ijbylby Hij_^_ebl nhg^u b ijhba\h^kl_gguc pbde_rj_g^ijb_kbdmZpbhgguo	2	
		KZfhklhyl_evgy jZ[hIZ	4	
	1	JZ[hIZ gZ^ khklZ\e_gb_f keh\Zjy l_jfbgh\ ih l_f_ > dZd h[t_dl ohayckl_gghc KhklZ eblgh h h g^ki_dl gZ l_fm ijhba\h^kl\Z b __ kljmdl mjZ^ Bkih-é v a m\Zlv^eBygl bgnhjfZpbb	2	
	2	KZfhklhyl_evgh ih^]hhl\bl khh[s_gb_ gZ l_fm ©Hkg ij_^ijbylby^Z[hIZ k hkgh\ghc b ^hia b g bjZ levg h c ^ey bgnhjfZpblbkvf_ggZy jZ[hIZ gZ l_fm ©H[hjhl kj_^kl\	2	
L_fZ ijhba\h^kl_g	Kh^_j`Zgb_ mq_[gh]h:fZl_jbZeZ	2	HD HD	

aZljZlBa^_j`d ij_^ijbylby	1	ljhba\h^kl_ggu_ BZnjZl`udb ij_^ijbybbykljmdlmjZ	2	HD
		ljZdlbq_kdb_ aZgylby	4	
	1	ljhba\h^kl_ggu_ aZljZlu ij_^ijbylbc >Zlv hij_^_e_g jZkoh^KljmdlmjZ ba^_j`_d y\gu_ b g_y\gu_ Hij_^_e ijh^mdpBbr_gb_ aZ^Zq	2	
	2	JZkdjulygph[jZah\Zgb_ gZ ijh^mdpbx ^hoh^ ij_^ijby ba^_j`db hjjZgbaZpbb gZ ijhba\h^kl_ggu_ ba^_j DeZkkbnbdZpby ba^_j`_d ih f_lh^m hp_gdb aZljZl w JZ[hIZ gZ^ aZ^ZqZfb	2	
		KZfhklhyl_evgy jZ[hIZ	5	
	1	JZ[hIZ gZ^ ^hdez^hf ©Jhev fZeh]h [bag_kZ^a\ jZa\ Bkihevah\Zghgegbl_evghZlmju b B_g_lkjgklh\ J_r_gb_ ijZdlbq_kdbo aZ^Zq b jZa[hj kblmZpbc ih ke ©KhkIZ\blv kf_lm gZ ijhba\h^kl_h rdhevguo iZjl^a ©K kljhbl_evkl_h ^_lkdhc Kkhk\$Z^dly^h h ijh^_eZgghc jZ[h	2	
	2	KhkIZ\ev_gb_ dhgki_dIZ ih aZ^Zgghc l_f_ bkihevam ebl_jZlmjm Bkihevah\ZgpbkmgZ_feylih^]hlh\db ^hde l_f_ ©P_ghh[jZah\Zgb_ b __ hkh[_ggkib^a Kkhkfz\ P_ghh[jZah\Zgb_ ^a	3	
k_f_klj e ijZd kZfhkl			77q	
JZa^_e_jm^ b aZjZ[hlgZy ieZIZ			16	
L_fZ >hoh^u gZk_e Mjh_gv`bag		Kh^_j`Zgb_ mq_[gh]h:fZl_jbZeZ	2	HD HD HD
	1	>hoh^u gZk_e_gby >bnn_j_gpbZpby ^hoh^h\ Mjh_gv`bag KhpbZewghghfbq_kdZy iheblbdZ]hkm^Zjkl\Z	2	
		ljZdlbq_kdh_ aZgylb_	4	
	1	Hij_^_ebkvhqgdbb ^hoh^h\ ^hoh^h\]h^ \ Jhkkbb Hij_^_eblv dhwnnbpb_gl >`bgb lhkljh	2	

		Z[khexlgh]h jZ_gkl\Z b jZkij_^_e_gby ^hoh^Z gZk		
	2	AZjZ[hlgZy ideZdZ]eZ\guc bklhqgbd nhjfbjh\Zgby JZkkqblZlv ghfbgZ_eZvegngnxx aZjZ[eZllgm]xr_gb_ aZ^Zq	2	
		KZfhklhyl_evGZy jZ[hIZ	2	
	1	Bkihevamy l_fZlbq_kdbc fZl_jbZe úhg^Zhlhfbcmj^h `bagb gZk_e_gbykkbb aZ^ @KhpbZewghghfbq_kdZy]hkm^Zjkl\Zihevamy Bg_lkjmk b i_jbh^bq_kdmx ebl_jZ	2	
L_fZ		Kh^_j`Zgb_ mq_[gh]h fZl_jbZeZ	2	HD HD
:_ajZ[hlpZ Bgneyppy	1	:_ajZ[hlpZ kmsghklv nhjfu b \b^u NjbdpbhggZy [_ajZ[hlpZgylhklv gZk_e_gby lhebldZ]hkm^Zjkl\Z Bgneyppy b __ nhjfu :glbbgneyppbhggZy ihebldZ]h	2	HD
		ljZdlbq_kdb_ aZgyly	4	
	1	Hij_^_eblv ijbqbgub [_ajZ[hlpZ]ljbpu \b^u [_ajZ[hlpZ_e mjh_gv [_ajZ[hlpZ]ljbpu _ kblmZpbhgguo aZ^Zgbc ih l_f	2	
	2	ljh[e_fu aZgyhklb gZk_e_gby =hkm^Zjkl_ggh_ j Hij_^_eblv klZlmk aZgyhklb \ kljZg_ j_]bhg_ J_ lbkvf_ggZy jZ[hIZ	2	
		KZfhklhyl_evGZy jZ[hIZ	4	
	1	KkIZ\^_gb_ dhgkiazZgghc©AZgylyhklv gZk_e_gby ZdlmZevgu_ ijhpbkifuevamy hkgh\gmx b ^hihegbl_ Bkihevah\Zgb_ -BgkjmjkZ ^ey ihbkdZ ^hihegbl_ev KZfhklhyl_evgh j_rblv aZ^Zqbgyh[jZkZ[hlpZ]ljbpu]h\kljZg_	2	
	2	KkIZ\^_gb_ dhgkiazZgghc©ljjbqbgub [_ajZ[hlpZ]ljbpu bkihevamy hkgh\gmx b ^hihegbl_evngx ebl_jZlmjr j_kmjklZ_jbh^bq_kdhc ebl_jZlmju ^ey k[hjZ bgnhjfZp	2	
		JZa^_eFZdjhwdhghfbdZ	60	

L_fZ KGK b __ ihdZaZI_eb	Kh^_j`Zgb_ mq_[gh]h fZI_jbZeZ		2	HD HD HD
	1	FZdjhwdhghfK@Z b __ ihdZaZI_eb FZdjhwdhghf bg_klbpbb b k[_j`_gby	2	
	IjZdlbq_kdh_ aZgyIb_		4	
	1	JZkdjulv fZdjhwdhghfbq_kdbbkih fZ agZ p b b g Z e v g h] h <<l QGI G> Q>Zl>hij_^_e_gb_ b oZjZdl_jbklb d m h jZkoh^Zf b ih ^hoh^Zf J_r_gb_ aZ^Zq	2	
	2	Bg_klbpbb b bo wnn_dlb\ghklv J_r_gb_ aZ^Zq ^_g`_gh]h djm]h h z h y h j Z a _j g m l u c h l _l b i j b _k l b i j b f	2	
	KZfhklhyl_ evgZy jZ[hIZ		4	
	1	KhkIZ\ e_gb_ dhigkiaZ^Z gghc©Kbfkl_fZ gZpbhgZevgh] hkgh\gu_ oZjZdl_pkk h e d r a m y hkgh\gmx b ^hihegbl_ Bkihevah\Zgb_ -B g k m j k Z ^ e y i h ^] h l h \ d b ^ h d e Z ^ Z i h a kihkh[u_]h jZkq_IZ^a	2	
	2	L_fu ^hdeZ^h\ gZ ©ZjpbhgZevgh_ [h]ZIKl\h ©FZdjhwdhghfbq_kdh_ jZ\gh_kb_ ©g_klbpbb b k e b j a ` _ g ©Bg_klbpbb b bo wnn_dlb\ghklv^a ©JZkiheZ]Z_fuc e	2	
L_fZ >_gv]b b bo kmsgghklv	Kh^_j`Zgb_ mq_[gh]h fZI_jbZeZ		2	HD HD HD
	1	>_gv]b kmsgghklv b nmgdpbb AZdhg ^_g`_gh]h >_g`_gu_ Z]j_]Zlu	2	
	IjZdlbq_kdh_ aZgyIb_		4	
	1	©Ijhbkoh`^_gb_ ^_g_] fhg_l [mfZ`guo b kAZkleerbrp\ ^hdeZ^Z NmgdpZdhg_g_g`_agh]h h]jZrs gbb y aZ^Zq	2	
	2	J_r_gb_ aiZ^Zqijhkm ^_g`_gu_ kZ]klZZeugb_ l_jfbghe keh\Zjy AZkemrb\Zgb_ ^hdeZ^Z	2	
	KZfhklhyl_ evgZy jZ[hIZ		2	

	1	Bkihevah\Zgb_ -B_gk_mjck_Z ^ey ih^]hlh\db ^hdeZ^Z ©>_g_`gu_ Z]j_]Zlu kljZgu b<uohlelgmgbbmjZkZfhklhyl_ e \ ibkvf_gghc nhjf_ ih \hijkZf l_fu	2	
	2	<uiheg_gb_ kZfhklhyl_evi ghchijZ[kshug@] b b vch^j_f_g ieZl_`guo kj_ BkliV^evah\Zgb_ -B_gk_mjck_Z b hkgh\ghc e mq_[ghc ^bkpbiebg_	2	
L_fZ		Kh^_j`Zgb_ mq_[gh]h:fZl_jbZeZ	4	HD
;Zgdh\kdZy	1	;Zgdh\kdZy kHkkgfZgumgdppbb b aZ^Zqb P; JN Dhff_j nmgdppbg_`gh_`^blgZy iheblbdZ	2	HD
kbkl_fZ_g_`g	2	AZkemrb\Zgb_ ^hdeZ^Z gZ l_fm ©;Zgdh\kdZy^_leb nmgdppbb b aZ^ZqffPjq_kdb_ [Zgdb p_eblZa[hjm gkpph L_klu	2	
dj_`^blgZy		ljZdlbq_kdb_ aZgyly	4	
iheblbdZ	1	<b^u [Zgdh\kdbo hi_jZpbckkkmj`g^h]e_gjhp_glZ gZ aZ JZkdjulv mkem]b [Zgdh\ JZa[hj kbllmkZpbhgguo aZ^Z	2	
	2	Hij_`_eblv kmsghklv dj_`^blZ b nmgdppbb dj_`^blZ J_r_gb_aZ^Zq_klu	2	
L_fZ		Kh^_j`Zgb_ mq_[gh]h fZl_jbZeZ	2	HD
P_ggu_ [mfZ]	1	Jughd p_gguo [mfZ]gppbb Nhg^h\Zy [bj`Z b __ nmgd	2	HD
Zdpbb h[eb]Z		ljZdlbq_kdb_ aZgyly	4	
Nhg^h\uc jug	1	Hij_`_e_gb_ dmjkZ klhbfhklb p_gguo [mfZ] F_`hljZke_`u_ i_j_`eb`u dZiblZeZ l_j_oh^ mijZ`e kh[kl_`ggj_dm_gb_ kbImZpbhgguo aZ^Zgbc	2	
	2	J_r_gb_ aZ^Zq ih l_f_ ©;bj`_`u_ hi_jZpbb b bo ki_dmeyppbb ;bj`b VZkdkjubb `b^u ^_yl_evghklb gZ J_r_gb_ aZ^Zq AZkemrb\Zgb_u ^hdeZ^h\	2	
		KZfhklhyl_evgZy jZ[hIZ	2	

	1	KhkIZ\e_gb_ dhgkaiZ^dZgghib@<f^u ^_yl_evghklb gZ nr [jhd_jkdZy b ^b^e_jkdZyghklv^a bklhghv\agmyx b ^hiheg ebl_jZlmjm Bkihevah\Zg_bkm.BkZjhjgs_lgih_l_f_@<b^u p_g [mfZ] Zdpbb h[ij_b^ZpZv^alv \ ibkvf_gg hlc bkl djfb_gnhjfZ bklhqqgbdZf	2	
L_fZ NbgZgku =hkm^Zjkl_g [x^`_l		Kh^_j`Zgb_ mq_[gh]h:fZI_jbZeZ	2	HD HD
	1	NbgZgkh\Zy kbkl_fZ b __ a_gvy =hkm^Zjkl_ggu jZkoh^u	2	HD
		IjZdlbq_kdb_ aZgylby	4	
	1	JZkdjulv kmsghklv nbgZgkh\hc Mlnkd p_b bJmklgZg kh\h Hij^_e_gb_]hkm^Zjkl_ggh]h [x^`_lZ dZd]eZ\gh]h >_nbpblguc b ijhnbpblguc]hkm^Zjkl_gguc [x^`_l ljh_klb [-eh]k ih lJfr_gb_ZaZ^	2	
	2	JZkdjulvZlkb ^hoh^h\ b klZlV]h kjZ kZjhklh_ggh]h [x^`_l kljmdlmjm nbgZgkh\hc kbkl_fu]hkm^Zjkl_ggu_ ij^_ijbylbc_r_gb_ aZ^Zq	2	
		KZfhklhyl_evGZy jZ[hIZ	4	
	1	KhkIZ\e_gb_ dhggZkil_dfrZ ©NbgZgkh\Zy kbkl_fZ kljZg hkgh\ghc b ^hihegbl_evghc ebl_jZlmju lhbkd ^hih jZaguo bklhqqgbdh\ L_fu ^hdeZ^h\ gZ \u[hj_ljh [x^`_lZ bklhqqgdbd >_nbpbl]hkm^Zjkl_ggh]h K[ZeZgkbjh\Zgguc]hkm^Zjkl_gguc [x^`_l lh^]hlh\b ih \u[jZgghc_l_f_	2	
2	Mq_[-p]k ke^h\ZI_evkdZy jZ[hIZ ih l_f_ e_dpbb ©Nb bgnhjfZpbb ZgZebIbq_kdZy h[jZ[hldZ l_dklZ lh k_^_gbc ih l_f_ ©=hkm^Zjkl_gguc [x^`_l ^hoh^gZy ^hdeZ^h\ khh[s_gbc J_r_gb_ aZ^Zq ih h[jZapm j_ klZlvyf jZkoh^h\ b ^hoh^h\	2		
L_fZ	Kh^_j`Zgb_ mqf_Zlgjh]hZeZ	2		

NbkdZevgZy iheblbdZ]hkm^Zjkl\Z	1	NbkdZevgZy iheblbdZ]hkm^Zjkl\Z f_llh^u ihkljh_gb kbkluf Kbkl_fZ b nmgdpbb gZeh]h\uo hj]Zgh\	2	HD HD HD
	ljZdlbq_kdh_ aZgyIb_		4	
	1	>Zlv hij_^_e_gb_ nbkdZevghc iheblbd_]hkm^Zjkl\Z iheblbdb klfmebjmxsZy b k^_j`b\ZxsZy iheblbdZ aZ^Zgby	2	
	2	We_f_glu gZeh]Z b kihkh[u _]h \abfZgby J_rL_gkl JZa[hj kblmZpbc	2	
	KZfhklhyl_ evgZy jZ[hIZ		2	
	1	KhkIZ\ e_gb_ dhgki_dIZ ih@Z^Zjgh\Zy ik_bkl_fZ Jhkk hkgh\gmx b ^hihegbl_ evgmx ebl_jZlmjm BjklhrejlaZ ih^]hjh\db ^h\dbZaZ^ZggZdbd_f gZ \@]Zeh]b b \b^u ©>_g_`djh^blgiZyeblb]Zkm^Zjkl\Z^ ©NbkdZevgZy ihe IhbkbgnhjZpbb ih bklhgqgdZf	2	
JZa^_e F_`^mgZjh^gZy wdghghbdZ			20	HD HD HD
L_fZ F_`^mgZjh^gZ lhj]h\ey	Kh^_j`Zgb_ mq_[gh]h:fZI_jbZeZ		2	
	1	F_`^mgZjh^gZy lhj]h\ey b fbjh\hc jughd F_`^mgZ F_`^mgZjh^gZy lhj]h\Zy iheblbdZ]hkl_dpbhgaf b N	2	
	ljZdlbq_kdb_ aZgyIby		4	
	1	L_fu ^hdeZ^h\`^mgZjh^gh_ jZa^_e_gb_ ljm^Z^a ©=h \ h[eZklb f_`^mgZjh^ghc @Hjkh\egghklb f_`^mgZjh^g L_hjby kjZ\gbl_ evguo ba^_j`_d^a ©ljhl_dpbhgaf \ AZkemrb\Zgb_ ^hdeZ^h\	2	
	2	JZkdjulv kblmZpbc gZ fbjh\hf jugd_ Hij_^_eblv ij fbjh\hc lhj]h\ey H[tyk]p]kblmZpbcZ fbjh\hf jugd_ kblmZpbcguo aZ^Zq L_klu	2	
	KZfhklhyl_ evgZy jZ[hIZ		4	

	1	JZ[hIZ k hkgh\ghc b ^hihegbl_evghc ebl_jZl mjhlc_f_l ©Hkh[_gghklb f_`^mgZjh^ghc lhj]h\eb Lb_ahjbjy_kdZ\gb Dhgki_dlbjh\ZgbZ^Zfguo ij_ih^,ZZZeb_lbq_kdZy h[jZ[r ih^]hjh\dZ ^hihegbl_evguo k_^_gbc ih l_f_ \ \b^_ ^	2	
	2	:gZebIbq_kdZy h[jZ[khZjZl_dpbhgba]h hkh[_gghklb g jugd^_ ih^]hjh\dZhegbl_evguo k_^_gbc ih l_f_ \ khh[s_gbc!# < & / %<WmZevgu_ ijh[e_fu fbjh\h ©F_`^mgZjh^gh_ jZa^_e_gb_ ljm^Z b _]h hkh[_gghkl	2	
L_fZ <Zexlgujughd Dhg_jlbjm_fr \Zexlu		Kh^_j`Zgb_ mq_[gh]h:fZl_jbZeZ	2	HD HD
	1	<Zexlgujughd \Zexlgu_ d r j k j k n k j i \ Z j ^ g u c d m j k D h g \Zexlu	2	HD
		IjZdlbq_kdb_ aZgyIby	4	
	1	AZkemrb\Zgb_ ^@djbZpbh u \Zexlgh]h j_]mebjh\Zgb dhgljhey \ Jhkkbckdhc N_^_jZpbb^ ©lhjy^hd j_]me ©IZjbl_l ihdmiZl_evkdhc kHkh\gkllb^aieZl_`guc [ZeZ	2	
	2	JZkdjulZdmhju hij_`_eyxsb_ \Zexlgu_ dmjku h[t_f / <<l iZjbl_l ihdmiZl_evghc kihkh[ghklb dhe_[Zgb jZaebqby \ ijhp_glguo kIZ\dZo b i_j_`eb\ u dZiblZe [m^ms_c ^bgZfbdb \ZexJZa]hj d h j k Z c k l u	2	
		KZfhklhyl_evgyZy jZ[hIZ	4	
	1	:gZebIbq_kdZy h[jZ[hldZ l_dklZ ih^]hjh\dZ ^hihegk \b^_ ^hdeZ^h\ khh[s_gbc lh^]hjh\biv ^h@FeZ^mLgZfju \ZexlgnhgZgkh\u_ hj]ZgbaZpbb^ ©<Z_e]xl g a Z j Z d h j k b ©NZdlhju hij_`_eyxsb_ \ZexBguhevdahj kZl^v Bgl k mj k l ihbkdZ bgnhjfZpbb	2	

	2	Dhgki_dlbjh\Zlv \hijhku gZ \u[hj ih Jy^hdej_d]pnbobj jZ[hI gZ f_`^mgZjh^guo \Zexlguc@Dh(b)_Zldaj m_Zhekllw ©<Zexlguc dm^k^j bgnhjZpbb ih-Bgklmjg ml	2	
L_fZ Hkh[_gghklb kh\j_f_gghc wdhg^hfbdb Jh e y	IjZdlbq_kdb_ aZgylby		4	HD HD
	1	IhdZaZI_ eb wdhghfbq_kdh]h jhkIZ Bg_klbpbhgguc	2	HD
	2	JZkdjuilvdZaZI_ eb wdhghfbq_kdh]-hw q^hlgIhZ b d_ a g b d hb- wdhghfbq_Bkq^b_klbpbhgguc debfZI \ Jhkkbb Ijblhd b g J_r_g_k^blmZpbhgguo aZ^Zq L_klu	2	
o Z	Blh]h e-42q/ ijZ d74/ kZfhkl	171		

j>eyZdI_jbklbdb m^k^h^g^y by mq_[gh]hbKZhejvazneZlky ke_^mxsb_ h[hagZq_gby
 1 ±hagZdhfbl_evduc magZ\Zgb_ jZg__ bamq_gguo h[t_dih\ k\hckl\
 2 ±j_ijh^mdl\b\guc \uiheg_gb_ ^_yl_evghklb ih h[jZapm bgkljmdpbb beb ih^ jmdh\h^kl
 3 ±ijh^mdl\b\guc ieZgbjh\Zgb_ b kZfhklhyl_evgh_ \uiheg_gb_ ^_yl_evghklb j_r_gb_ ijl

L_fZlBq_kdbc ieZg ih mq_[ghc ^bkpbiebg_ l> WDHGHFBD: ^ey AZhqgh]h h

GZbf_gh\Zgb_ jZa^_eh\ b l_f	Kh^_j`Zgb_ mq_Zlgh]h fZl_jbZeZ b nhjfu hj]ZgbaZpbb ^_yl_evghklb	H[t_f \ qZk
1	2	3
JZa^_e WdhghfbdZ b wdhghfbq_kdZy gZmdZ		
L_fZ J_kmjku nZdlhju ihlj_[ghklb [e	Kh^_j`Zgb_ mq_[gh]h fZl_jbZeZ <\^_gb_ L_hj_lBq_kdb_ hkgWdhghfbdZ b ihlj_[ghklb h[s nZdlhju ihlj_[ghklb ljZdlBq_kdh_ aZgyIb_ Kmsgghklv wdhghfbdZ b wdhghfbq_kdb_ ihlj_[ghklb h[s_kl\Z Wdhghfbq_kdb_ j_kmjku nZdlhju b ihlj_[ghklb Bkihevah\ ebl_jZlmjmh^_h\h\db d k_fbgZjm	2
L_fZ Jugh f_oZgbaf	Kh^_j`Zgb_ mq_[gh]h fZl_jbZeZ Kmsgghklv nmgdpbb jugdZ AZdhgu jugdZ kihk b ij^_e ij^_eh`_gby	2
L_fZ NZdl jugdb Dhgdmj_gpby nhjfu f_lh^u :glbfhghihevg iheblbdZ]hkm^Zjkl\Z	Kh^_j`Zgb_ mq_[gh]h fZl_jbZeZ NZdlhju_ jugdb jughd a_feb jughd dZiblZeZ jugh ij^_ijbgbfZl_evkl\Z Dhgdmj_gpby \b^u f_lh^u b nhjfu :glbfhghihevgZy ihebl	2
L_fZ Hj]ZgbaZpbbhg ijZ\h\u_ nhjfu ij^_ijbylbc < ijb[ueb	Kh^_j`Zgb_ mq_[gh]h fZl_jbZeZ Hj]ZgbaZpbbhg h_u_ nhjfu ij^_ijbylbc Ba^_j`db kmsgghklv ba^_j`_d WeZklbqghklv b -- ljb[uev b ^hoh^u ij^_ijbylbc	2

[mo]Zel_jkdZy wdhghfbq_kdZ ijb[uev			
		ljZdlbq_kdh_ aZgylb_ Ba^_j`db kmsgghklv deZkkbnbdZpby <b^u ba^_j`_d WeZk Ijb[uev b ^hoh^u ij_^ijbylbc	2
Blh]h k_f_k			12
JZa^_e L FZdjhwdhghf IhdZaZI_ebl <GI QGI G> JE> E>		ljZdlbq_kdh_ aZgylb_ :gZebabh\Zlv fZdjhwdhghfbq_kdb_ ihdZaZI_eb kbkl_fZ g QGI G> Q> J> JZkkqbIZlv <GI aZ ijhreuc]h^ ih jZkoh	2
		ljZdlbq_kdZy jZ[hIZgb_ kbImZpZnZguo FZdjhwdhghfbq_kdh_ jZ\gh_kb_ fZdjhwdhghfbq_kdbc ki jZkq_IZ FZdjhwdhghfbq_kdh_ ij_^eh`_gb_ f_lh^u jZkq_IZ FZd bg_klbpbb b k[_j`_gby	4
L_fZ >_g nbgZgkh\Zy kt kljZgu		Kh^_j`Zgb_ mq_[gh]h fZI_jbZeZ >_gv]b bo kmsgghklv ^_g`gh_ h[jZs_gb_ NbgZgkh\Zy k =hkm^Zjkl_gguc [x^`_l B_]h bklhqqbdb >_nbpbl b ijhnb P_gljZebah\Zggu_ b ^_p_gljZebah\ZgguifnmgZgbBklhggh'dt	2
L_fZ NbkdZevgZy iheblbdZ]hkm^Zjkl\Z		Kh^_j`Zgb_ mq_[gh]h.fZI_jbZeZ Kmsgghklv gZeh]h\ \b^u gZeh]h\ klZ\db gZeh]h\ Kihkh[u \ JZkdjulv kmsgghklv gZeh]h\ b \b^u gZeh]h\ Hij_^_eblv_W \abfZgbDZdbfb gZeh]Zfb h[eZ]Zxlky nbabq_kdb_ b xjb^bq_k	2

L_fZ ;Zgdh kbkl_fZ dj_^b iheblbdZ		ljZdlbq_kdZy jZ[hZ Dhg\h\kdZy kbkl_fZ Jhkkbb Hkgh\gu_ nm Dhff_jq_kdb_ [Zgdb b ogn_mgjl_pbbgZy kbkl_fZ Dj_^bl b _	2
L_fZ <Zexl jughd Dhg_jlbjm_fh \Zexlu		ljZdlbq_kdZy jZ[hIZ <Zexlguc jughd \Zexlguc dmjknkjVj^guc dmjk Dhg_jlbj _]h k\hckl\Z GZpbhgZevgZyZjZexljZ kbbdZ =hkm^Zjkl_gg \Zexlghf jugd_	2
L_fZ F_`^mgZjh^gu wdhghfbq_kdb hghr_gby f_`^mgZjh^gZy lhj]h\ey		ljZdlbq_kdZy jZ[hIZ F_`^mgZjh^gZy lhj]h\ey b fbjh\hc jughd L_hjby kjZ Ki_pbzebaZ_p^ymgZjh^gh_ jZa^_e_gb_ ljm^Z hkgh\gu_ gZ j_]mebjh\Zgb_ f_`^mgZjh^ghc lhj]h\eb ljhl_dpbhgbaf b Nj	4
		ljZdlbq_kdh_ aZgylb_hjby kjZ\gbl_evguo ij_bfms_kl\ F_`^mgZjh^gh_ jZa^_e_gb_ lgrZ^jZ\eh_kgh\gu_hkm^Zjkl_ggh f_`^mgZjh^ghc lhj]h\eb ljhl_dpbhgbaf b Njblj_^_jkl\h	2
blh]h			32
		ljhf_`mlhgguc dhgljhev wdaZf_g	

MKEH<BY J?:EBA:PBB MQ?;GHC >BKPBIIEBGU

3.1.>ey j_ZebaiZpbjZffumq_[ghc ^btkpbiebgu ij_^mkfhlj_gu ke_^m
ki_pbZevgu_ ihf_s_gby \ khhl_lkHhhd k N=HK b
-dZ[bg_l hkgZs_gguc h[mj q^h\Zg b h kZ^hqqgu_ f_klZ ^ey h
b ij_ih^Z\ZI_ey deZkkgy ^hkdZ ;glZ pgyb^g uk d b_Zl kjjb_Z k lZ h
bgl_jZdlb\gZy ^hkdZ ijh_dlhj dhfivxl_j
- dZ[bg_l ^ey kZfhklhyl_evghc jZ[hlu klm^_glh\
3. BgnhjfZpbhg[glki_q_gb_ j_ZebaZpbb ijh]jZffu

>ey j_ZebaZpbb ijh]jZffu [b[ebhl_qguc nhg^ h[jZbf\ZI_ev
i_qZlgwe_dljhggu_ h[jZah\ZI_evgu_ b bgnhjfZpbhggu_ j_kmj
bkihevah\Zgby \ h[jZah\ZI_evghf ijhp_kk_

3.3.l_j_q_gv j_dhf_g^m_fuo mq_[guo baj^Zkgrbj&h\Bgl_jg_
^hihegbl_evghc ebl_jZlmju

3.3.1.Hkgh\gu_ bklhgqgdbb

1 ;hjbkh\ ? N Hkgh\u wdhghfbb >We_dljhggu_ j_kmj@ m
? N ;hjbkh\ba^ i_j_jZ{ Fb ^XjZcl ± k±J_`bf ^hklmiZ
<http://biblio-online.ru>

2. ;hjbkh\ ? N Wdhghfbdz >We_dljhggu_ j_kmj@ mq_-[gbd
7_ ba^ i_j_jZ[F b ^XjZcl ± k±J_`bf ^hk <http://biblio-online.ru>

3. KeZ]h^Z < = Hkgh\u wdhghfbq_kdhc l_hjbb^2 3mqb^gbd
Fhkd\Z NHJMF -BGNJ: ^2 k^2 Kj^g__ ijhn_kkbhgZev
h[jZah\Zg ISBN 9785-00091-091- NHJMF ,6%16-000917.- L_dkl
we_dljhggu_ URL: <https://new.znaniy.com/catalog/product/1775564>

Hkgh\u wdhghfbq_kdhc l_hjbb >We_dljhggu_ j_kmj@ mq_
K : LhedZq_\ >b ^j @ ih^ j_ ^2-K_ ba^LhedZq_\ ^hi F
2020.^2 k±J_`bf ^hkl <http://biblio-online.ru>

Hd_Zgh\Z A D Hkgh\u wdhghfbb mq_[gh^2 bhkh\ba^
i_j_jZ[b ^hiFhkd\Z NHJMF -BGNJ: ^2 k^2 Kj^g__
ijhn_kkbhgZevgh_ h[jZah\Zg ISBN 9785-019907283.- L_dkl we_dljhggu_
<https://znaniy.com/catalog/product/1221082>

3.3.2.>hihegbl_evgu_ bklhgqgdbb

1. ;Zj^h\kdbc < l Wdhghfbq_kdZy l_hjby mq_[gbd
Jm^Zdh\Z ? F KZfFhkh\hZ B> ©NHJMF^F BGNJ: k^2

Kj^g__ ijhn_kkbhgZevgh_ - ISBN 9785-019908792.- L_dkl
we_dljhggu_ URL: <https://new.znaniy.com/catalog/product/1215346>

J_agbd K > <_^_fbbm\>Wdhghhggu_ j_kmj@ mq_
K > J_agbd A : F_[Z^mjb ? < >moZgbgZ ih^ hfa^ j_
kl_j_hlbiF BGNJ: ^2 k±J_`bf ^hklmiZ KWWS ZZZ]QD

3. Ebikbp B < Wdhghfbdz ;Zah\uc ^d^mjk MqdeZk&h
h[s_h[jZah\ZI_evguo mq_15_`^bgb^cF <B-UJ?KK ± k
j_dhf_g^h\Zgh Fbgbkl_jkl\hf h[jZah\Zgby b gZmdb JN

3.3.3.We_dljhggu_ ba^Zgby we_dljhggu_ j_kmjku

=Za_lZ >We_dljhggu_ j_kmj@ jhg ±Zgbf ^hklmiZ
<https://www.gazeta.ru>

?^bguc ihjlZe dgklbg\Zgb_ \ kn_j_ h[jZah\Zgby >
j_kmjku >We_dljhg ±Zgbf ^hkl <http://www.i-exam.ru/>

3. E_kdbgZ H G WdhghfbdZ >We_dljhgguc j_kmjk@
 rdhevghbdh\ klZjrbo deZkkh\ Z[blmjb_glh\ \ukrbo mq_[guo a
 wdhghfbq_kdb_ ki_pbZevghklb WeHdGjh_ k_d_b_lz\ u±KZZZghu_
 <mah\kdh_ h[jZa2014gk_76 c. ± 2227-8397. ± J_`bf ^hklimiZ
<http://www.iprbookshop.ru/21353>

Fbjh\Zy wdhghfbdZ >We_dljhgguc j_kmjk@ f ^hklimiZ
<http://www.ereport.ru>

4. DHGLJHEV B HP GD MEVL: LH < HK < H? GBY > BKP BIEBGU

Dhgljhev b hp_gdZ j_amevlZih\ hk\h_gby ^bkpbie
 ij_ih^Z\Zl_e_f \ ijh_p\k_k_gby ijZdlbqZgyllbc l_klbjh\Zgby Z
 \uiheg_gby h[mqZxsbfbky bg^b\b^mZevguo aZ^Zgbc bkke_^\

J_amevlZlu_gpmq hk\h_ggu_ mf_gby mk\h_ggu	Nhjfub f_lh^u dhglj hp_gdb j_amevlZih\
Mf__l	
-ijb\h^blv ijbf_ju nZdlhj\ ijhb nZdlhjguo ^hoh^h\ h[s_kl_gguo ij^ijbylbc jZaguo hj]ZgbaZpb]eh[Zevguo wdhghfbq_kdbo ijh[e_f	ijZdlbq_kdb_ aZgyllbc kZfhklhyl_evgyZy jZ[l_dmsbc dhgljhev - \uiheg_gb_ bg^b\b^mZevguo ijh_dlh^hdeZ^
-hibku\Zlv ^_ckl\b_ jughqgh]h f_o nhjfuaZjZ[hlghe ieZlu b klfme bgneypbx hkgh\gu_ klZlvb]hk[wdhghfbq_kdbc jhkl]eh[Zeba wdhghfddb	l_dmsbc dhgljhev - mklguc hijhk - ^hdeZ^ dhgki_dl
-h[tykgylv \aZbfh\u]h^ghklv ^h[jh ijbqbggu g_jZ_gkl\Z ^hoh^h\ \ ijh[e_fu f_`^mgZjh^ghc lhj]h\eb	l_dmsbc dhgljhev - mklguc hijhk - \uiheg_gb_ bg^b\b^mZevguo ijh_dlh\
-bkihevah\Zlv ijbh[j_l_ggb_ mfgg ijZdlbq_kdhc ^_yl_evghklb b ih\k_ ihemq_gby b hp_gdb wdhghfbq_ khklZ\e_gby k_f_cgh]h [x^`_lZ hp wdhghfbq_kdbo ^_ckl\bc \ dZq_ qe_gZ k_fvb b]jZ`^ZgbgZ	l_dmsbc dhgljhev - hijhk - \uiheg_gb_ bg^b\b^mZevguo ijh_dlh\
-hij^_eblv j_kmjk g_h[oh^bfu_ mf_gb_ h[hkgh\Zggh \u[jZlv ij gZijZ\e_gb_ jZa\blby mf_gb_ khkl ieZg ijhn_kkbhgZevgh]h b ebqghkl	l_dmsbc dhgljhev - mklguc hijhk - ^hdeZ^ dhgki_dl
AgZ_l	

-nmgdpbb ^_g_] ^_g_`gh_ h[jZs_g ^_g_`gZy fZkkZ	l_dmsbc dhgljhev - mklguc hl_l -^hdeZ^
-kmsgkh[Zgdh\kdhc kbkl_fu ijhp_? iheblbdb ^hjh]bo b ^_r_\uo ^_g_]	l_dmsbc dhgljhev - mklguc hl_l -^hdeZ^
-ijbqbggu jZaebqbc \ mjh\g_ h klbfmebjh\Zgby ljm^Z aZjZ[hlgZy kbkl_fZ g_lZjbngZy kbkl_fZ	l_dmsbc dhgljhev - mklguc hl_l -^hdeZ^ l_klbjh\Zgb
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-deZkkbnbdZp]ZgbaZp-bjZguo n ij_^ijbgbfZI_evkHHZHH LbHj	l_dmsbc dhgljhev - mklguc hl_l -\uiheg_gb_ bg^b\b^ ijh_dlh\ ^hdeZ^
-\b^ p_gguo [mkZ]sghk^hg^h\hc [k hkh[_ggh^b^b^_g^ghc iheblbdb :H	l_dmsbc dhgljhev - mklguc hl_l -\uiheg_gb_ bg^b\b^ ijh_dlh\ ^hdeZ^
-i_j_q_gvnZdljh\ wdhghfbq_kdh fZdjwdhghfbq_kdbo ihdZaZI_e_c (<GI <<l G> QGI E> kb\hdmigh]h ij_^eh`_g_bZdjhw dhghfbq_kdh_ jZ\g	l_dmsbc dhgljhev - mklguc hl_l -^hdeZ^u
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:>:IL:PBY J:;HQ?C IJH=J:FFU IJB H;MQ?GBB EBP K
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:^ZilZpby jZ[hq_c ijh]jZffu ^b_kpbilWbDgHGFBiDh\h^biky
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ki_pbZebklh\ kj_^g_]h a_g_khpbZevgZy pZehyZ h[_ki_q_gby
bg\Zeb^h\ b ebp k h]jZgbq_ggufb \hafh`ghklyfb a^hjh
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h[mqZxsbfby bg\Zeb^Zfb b ebpZfb k h]jZgbq_ggufb \ha
j_amevlZih\ nhjfbjh\Zgby ijZdlbq_kdh]h hiulZ

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h]jZgbq_ggufb ghklyfb a^hjh\vy DZ[bg_lu ^he`gu [ulv
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>ey keZ[h\b^ysbo h[mqZx\$bg_kij_ ^mkfZljb\Zxlky ijhkfh
m^Ze_gguo h[t_dlh\ ijb ihfhsb \b^_hm_ebqbl_e_c ^ey m
BkihevZgb_ ;jZce_kdhc dhfivxl_jghc l_ogbdb we_dljhggg
g_bamZevgh]h ^hkmiZ d bgnhjZpbb l_ogbjq^Zdho nkq_↑ghc
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>ey h[mqZxsboky k gZjmr^bb]Zi_hivgh]h ZiiZjZIZ dZ[bg_l
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h[mqZxsboky ih Z^Zilbjh\Zggghc h[jZah\ZI_evghc ijh]jZff_ k
lbiZ gZjmr_gbc a^hjh\vy m h[mqZxs_]hky

BgnhjZpbggh_ b f_lh^bq_kdh_ h[_ki_q_gb_ h[mqZxsbo

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jZ[hq_c ijh]jZffu ^he`_g [ulv ij_^klZ\e_g \ nhjZo Z^
h]jZgbq_gbyf a^hjh\vy h[mqZxsboky bg\Zeb^h\ggufbebp
\hafh`ghklyfb a^hjh\vy

>ey ebp k gZjmr_gbyfb aj_gby g_ f_g__ h^gh]h \b^Z

- \ i_qZlghc nhjf_ m_ebq_gguf rjbnlhf

- \ nhjf_ we_dljhgggh]h ^hdmf_gIZ

- \ nhjf_ Zm^bhnZceZ

- \ i_qZlghc nhjf_ gZ yaud_ ;jZcey

>ey ebp k gZjmr_gbyfb kemoZ

- \ i_qZtghhjf_

- \ nhjf_ we_dljhgggh]h ^hdmf_gIZ

>ey ebp k gZjmr_gb^fb]Zihjvgh]h ZiiZjZIZ g_ f_g__ ^\m

- \ i_qZlghc nhjf_

- \ nhjf_ we_dljhgggh]h ^hdmf_gIZ

- \ nhjf_ Zm^bhnZceZ

>ey ebp k -gkpb\ghq_kdbfb gZjmr_gbyfb jZkkljthqkl\h
ki_dljZ gZjmr_gb_ ikbobq_kdh]h jZa\biby

- bkihevah\Zgb_ l_dklZ k beexkljZpbyfb
 - fmevlbf_ ^bcgu_ fZl_jbZeu
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 h]jZgbq_ggufb \hafh`ghklyfb a^hjh\vy ^he`gu [ulv hl[b_ki_q_ Bgl_jg_l

Nhjfub f_lh^u dhgljhey b hp_gdb j_amevlZlh\ h[mq_gby

MdZaZggu_ \ i ijh]jZffu nhjfu b f_lh^u dhgljhey ijh\
 h]jZgbq_gby a^hjh\vy h[mqZxsboky P_evx l_dms_]h dhgljhe
 \uy\e_gb_ aZljm^g_gbc b[mkZzZg]ky k h]jZgbq_ggufb \hafh
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 \hafh`ghklyb^hjh\vy mklgh ibkvf_ggh gZ [mfZ]_ ibkvf_gg
 nhjf_ l_klbjh\Zgby b l i
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6.EBKL I?J?ML<?J@>?GBY :DLM:EBA:PBB J:;HQ?C IJH=J
 >BKPBIIEBGU

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< lZ[ebp_ mdZau\Z_lky lhev dh oZjZdl_j baf_g_gbc gZijbf_j
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