



**cW-6.1**

**evsj v`tki Af,`q, Ae`vb I mrgv`ti Lv**

**D`i`k`**

**GB cW tk`i Avcib**

- 1 evsj v`tki Af,`q m`fU RivtZ cvi`teb,
- 1 evsj v`tki Ae`vb I AvqZb ej`tZ cvi`teb,
- 1 evsj v`tki mrgv ej`tZ cvi`teb|

**6.1.1 Af,`q**

`xN`bq gvm mk`i; msM`itgi ga` w`tq evsj v`k` `vaxb mve`fSg iv`o` wnmv`te 16B wM`tm`af 1971 m`tj vek; gvbwP`tI `vb K`ti tbq| 1947 m`tj fviZ Dcgnv`k` fivM n`tq m`p`o n`tqUj cvmK`vb- hvi c`lq 1000 gvBj e`eatb h`y` `w Ask uQj ce`oI c`w`dg cvmK`vb| evsj v`k` ZLb c`wi uPZ uQj ce`o cvmK`vb wntm`te| `B cvmK`vb RbM`tYi g`ta` GKgrI ag`Qvor Avi tKv`bv uel`tq uqj uQj bv| Dci`Sj, GKB t`k nI qv m`tEj| ce`o cvmK`vb c`lZ `el`tg`i b`m`Z avi Y K`ti c`w`dg cvmK`vb| A\_`B`m`Z, Db`qb KgR`vU, c`lZ u t`q`fI `el`tg`i w`k`Kvi nq ce`o cvmK`vb| d`tj evsj vi Rbg`tb Am`t`S`il `vbv teta I tV| GB Am`t`S`il c`K`vik cvq 1952 t`\_t`K 1970 mvj ch`oI u`ewf`b`e u`et`q`v`f I Av`f`v`j`t`bi g`ta`| AZtcI 1971 m`tj i 25tk gvP`ga`i v`tZ c`w`dg cvmK`vb biv ce`o cvmK`vb RbM`tYi Dci u`b`w`P`t`i nZ`v`h`A P`vj vq Ges `xN`bq g`v`t`mi i`3`q`q`x h`t`x`i ga` w`tq Af,`q N`tU evsj v`tki |

**6.1.2 Ae`vb**

G`uk`qv g`v`v`tki `w`q`Y`v`st`k, 20° 34' D`E`i A`q`i`L`v t`\_t`K 26° 38' D`E`i A`q`i`L`v ch`S`l Ges 88° 01' ce`o `w`Ngv` t`i`L`v t`\_t`K 92° 41' ce`o `w`Ngv` t`i`L`vi g`ta` evsj v`k` Aew`Z| evsj v`tki c`lq gvSLvb w`tq w`K`QyDc`ti KK`B`u`m`S`l A`\_`P` 23° 10' D`E`i A`q`i`L`v P`tj tM`t`Q Ges D`E`i `w`q`Y` eiv`e`ti 90° 50' `w`Ngv`sk P`tj tM`t`Q|

**6.1.3 AvqZb**

b`x I ebv`Aj mn evsj v`tki tgvU AvqZb c`lq 147570 eM`q`K`tj v`ig`u`lvi | evsj v`tki `w`q`Y` Astk DcK`tj mg`y``Zj vbx R`tg bZb f`w`g tR`tM DV`t`Q| f`w`el`t`Z evsj v`tki tgvU AvqZb Av`t`iv teta h`vI qvi m`p`tebv Av`t`Q|

**6.1.4 mrgv**

evsj v`tki D`E`ti fvi`t`Zi c`w`d`ge`1/2, tgNij q I Avm`ig ivR`; c`w`d`tg fvi`t`Zi c`w`d`ge`1/2; c`te`o fvi`t`Zi Avm`ig, w`l`c`j`v, uq`f`R`vi`v`g ivR` I gvq`v`bg`vi Ges `w`q`Y` e`f`1/2`c`m`M`i | evsj v`tki tgvU mrgv`ti Lv i `N`o 4712 w`K`tj v`ig`u`lvi | Gi g`ta` fviZ- evsj v`tki mrgv`ti Lv i `N`o c`lq 3715 w`K`u`g. | gvq`v`bg`vi- evsj v`k` mrgv`ti Lv 280 w`K`u`g. I `w`q`Y` e`f`1/2`c`m`M`t`i i DcK`j fivM 716 w`K`tj v`ig`u`lvi |



we`ly`mgfug Qrov, ersj vt`tki `wly-ce`I DEti AvtQ KtqKuU tQvU tQvU cvnvo tkYx|

**6.2.3 f-cKuzK tkYvefM**

MVtbi mgq Ablyqx ersj vt`tki f-cKuzK wZbuU cävB fvM fV M Kiv ntq\_vtK

1. cüBtqt÷vmb hMjMi PZji ev tmcvB Gj vKv,
2. Uvi ukqwi hMjMi cvnvox Gj vKv,
3. mrvuizK Kv tj i cveb mgfug|

**1. cüBtqt÷vmb hMjMi PZji Gj vKv**

AvR t\_#K cüq 10 j`¶ eQi AvtM th hMjMi mPbv ZvtKB cüBtqt÷vmb hMj ejv nq| GB hMjM cü\_ex ctoi AtbK RvqMv eitd tXtK wQj | cti GB eid hLb Mtj hvq ZLb eidMjv cvnb mgy`ctoi (cvnb mgy`ctoi) D`PZv ewx Kti, dtj fugi Xvj Ktg hvq Avi b`x\_tjv Zj vbx Rgqv| G mgq, ersj vt`tki b`x DcZ`Kvq cPjy Zj vbx RtgwQj | GB Zj vbx RtgB mwo ntqtQ cüBtqt÷vmb hMjMi PZji ev tmcvB| t`tki DEi-cwötg Aew`Z öeti>`fug', cüq tK>`stj ögasy' I öfvl qvj Mo' Ges ce`w`tk Kwgj v öj vj gvB' cvnvo G PZji AA'tj i AšMZ|

**eti>`fug** : t`tki DEi-cwötg AA'tj cüq 9,320 eMwKtj wgvUvi Gj vKv Rto eti>`fug| GwU cte`Ki tZvqv Ges cwötg gnvb`v b`x w`tq tewöZ| GB Gj vKvi fug AmgZj | Zi wqZ Ask\_tjv Avtk cvtki cveb mgfug t\_#K 6 t\_#K 12 wgvUvi chSf DBy eti>`fug KuKihy gvwU Ges is AtbKwv ayvi I nj`y t\_#K jvj tP nj`y|

**gasy' I fvl qvtj i Mo** : Uv`vBj I gqgbwmsn tRjvq gasy' I MvRxcjy tRjvq fvl qvtj i Mo Aew`Z| Gi AvqZb cüq 4,103 eMwKtj wgvUvi | XvKv gnvbMivi DEi t\_#K Rgvj cy chSf gasy' I fvl qvj Mtoi `N`cüq 112 wK.wg.| Zte ce`cwötg cüq gvSvgs `vtb MowU metPtq tenk cK`l| GLvtb cö' cüq 56 wK.wg.| Mtoi ce` I `wlyvstki D`PZv 7 wgvUvi Ges DEi-cwötg w`tki D`PZv cüq 33 wgvUvi | G AA'tj i gvwU is eti>`fugi gZ jvj vf nj`y I K`igq| ersj vt`tki kvj (MRvi) eb G AA'tj Aew`Z|

**jvj gvB cvnvo** : Kwgj v kni t\_#K 8 wKtj wgvUvi cwötg jvj gvB cvnvo Aew`Z| Gi AvqZb cüq 34 eMwKtj wgvUvi Ges Mo D`PZv 21 wgvUvi |

**2. Uvi ukqwi hMjMi cvnomgr**

ersj vt`tki `wly-ce`AA'tj i cvnomgr G AA'tj i AšMZ| A\_`P PÆMög I creZ` PÆMögi `wly-ce`sk Ges wmtjU tRjvi DEi ce`sk I `wlyvstki cvnomgr Uvi ukqwi hMjMi cvnvox Gj vKv| 75 wgvj qb eQi AvtM (Uvi ukqwi hMj), wgvj q ceZ MvB nl qvi mgq Gme cvnvtöi mwo nq| fWRMö' GB cvnomgrni Mo D`PZv cüq 600 wgvUvi Ges G\_tjv DEi-`wly`y cöwvi Z| tetj cv\_i, tkj cv\_i I K`g w`tq MvZ GB cvnvox Gj vKv AiY`veZ| GB AA'tj i cvnvo\_tj vtK Zvt` i Ae`vtbi Dci wfiE Kti `B fvM fV M Kiv ntqtQ| h\_v-(K) `wly-ce`AA'tj i cvnomgr I (L) DEi-ce`AA'tj i cvnomgr|

(K) `wY-ceAĵi cunvongr : iv½vgnU, LvMouQno, ev`ievb tRjv Ges K· evRvi I PEMġ tRjvi ceġk w`tq GB AĀj MwZ| G AĀĵi cunvo,tjvi Mo D`PZv 610 ugUvi | cuġg w`K t\_ĵK ce`w`ĵK D`PZv axti axti teġo tMĵQ| evsjv`ĵki mte`P cunvo Ppov wKtqvµvWs (1230 ugUvi) G AĀĵi ev`ieb tRjvq Aew`Z| GB AĀĵi cāv b`x,tjvi gta`i tqtQ KYġj x, mvs, I gvZvgvix|

(L) DĒi-ceAĵi cunvongr : wĵj U, mbygMĀ, tgġj wFevRvi I nneMĀ tRjvq wewġBfvte wKQycunvo t`Lv hvq| wĵj U tRjvi DĒi-ceġk I tgġj wFevRvi I nneMĀ tRjvi `wġĵYi cunvo,tjvi D`PZv cġq 240 ugUvi Avi G AĀĵi DĒi cunvo,tjvi D`PZv 30 t\_ĵK 90 ugUvi | tQvU tQvU cunvo,tjvĵK `vbxqfvte ōwĵj vō ejv nq|GB wĵj v,tjvĵZB Pv MvQ Rĵbĵ| evsjv`ĵki teiki fivM Pv evMvb GLvĵbB Aew`Z|

**3. m=ūĵZK Kvĵi cweb mgfvg**

Uviwkvwi hĵMi cunvox GjvKv Ges cūBtqt÷wmb hĵMi tmicvb GjvKv Qvov evsjv`ĵki mgMŌ GjvKv m=ūĵZK Kvĵi cweb mgfvg wntmte cwġwPZ| mgfvg AĀĵi AvqZb cġq 1,24,266 eMġKĵj ugUvi |

evsjv`ĵki cweb mgfvgi D`PZv DĒi t\_ĵK `wY w`ĵK KgtZ\_vĵK| DĒi Aew`Z w`bvRcĵi D`PZv cġq 38 ugUvi Avi `wġĵY mxyieb AĀj mgĵj mĵ\_ cġq ugĵk tMĵQ| w`ĵY`mgfvgi DĵjLthvM` f-cŌKwZK `eikŌ` nj wewġBfvte Qwotq\_vKv AmsL` Rjvfvig ev wej evlo I nvl o, cwġZ`³ b`xLvZ, AkLjyKwZ. nĵ, b`xcvfoi cŌKwZK exa, Pi BZ`w` | ivRkvx AĀĵi Pj biej, wĵj U AĀĵi nvKvjĵK I nvBj nvl i G AĀĵi Rjvfvigi DĵjLthvM` D`vniY| G me wġj eQĵi AwaKvsk mgq cweb\_vĵK|

M½v,-cŪv, tgNbv, eĵcy, hgv Ges Gĵ`i AmsL` kvLv b`x I Dcb`x evsjv`ĵki Dci w`tq etq Pĵj tQ| elġKvĵj b`x,tjvĵZ eb`v cweb nl qvi dtj b`x AeewwKvq cwġ Rĵg| eQĵi ci eQi Gfvte b`x ewwZ cwġ gvnU Rgv ntq mĵo ntqtQ cweb mgfvg|

Ae`vb I gvnUi `eikŌ`i Dci wfvĒ Kĵi m=ūĵZK Kvĵi cweb mgfvgĵK KtqKvU fivM fivM Kiv hvq| thgb, (K) cv`ĵ`kvq mgfvg(L) M½v-eĵcy tgNbv mgfvg (M) wġcĵv mgfvg (N) wĵj tU i AeewwKv (O) DcKj eZġmgfvg (P) tmĵZR mgfvg (Q) cwġ YZ e-Ōxc (R) mĵµq e-Ōxc (S) gZcġq e-Ōxc |

m=ūĵZK Kvĵi cweb mgfvgi teiki fivM `vb elġ mgq Wze hvq| cŪZ eQi bZb cwġ cġo gvnU ntq Iĵv LġB Deġ| Deġ GB cweb mgfvg KvL.i Rb` DrKŌ.tġġġ| KvL. wbfġ evsjv`ĵk `vfwēKfvte GB f-cŌKwZK AĀj, Ab` `ġ AĀj t\_ĵK Nb emwZcYġ

**mvisk**

evsjv`k cūLexi Ab`Zg epr e-Ōxc| MVĵbi mgq Abymĵi evsjv`kĵK wZb fivM fivM Kiv hvq| h\_v, (1) Uviwkvwi hĵMi cunvongr, (2) cūBtqt÷wmb Kvĵi

tmivcb/PZji Gj vKv| (3) mivúúZK Kvťj i cweb mgfug| GB wZb AĀťj i gvťS cweb mgfug evsj vť`ťki tgvU AvqZťbi 80 kZisk Gj vKv Rťo iťqtQ| cweb mgfugi gvU Lđ DeP Ges GuU NbemúZcYŕ

**cŕVĒi gj`vqb 6.2**

**mŭK DĒťi i cŕk ŭK (!) ũPý ũ b|**

1. f-cKŭZ. Abgnťi evsj vť`kťK KquU fvťM fvM Kiv nťqtQ?  
(K) 5 (L) 5 (M)
2. evsj vť`ťki cŕvovmgn-ťKvb hťM mŭp nq?  
(K) cŭBťqtť÷vmb (L) Uvi ŭkqvŭi (M) mivúúZK Kvťj (N) Avŕ`g hťM
3. cŭBťqtť÷vmb mgťq ŭK mŭp nťqvQj ?  
(K) PZji (L) cŕvovmgn (M) cweb mgfug (N) ceZmgn|

**DĒi : 1| N 2| L 3| K**

**iPbvj-K cĕe**

1. cweb mgfugi tKŭmefvM ũj Lđ

**iPbvj-K cĕe**

1. evsj vť`ťki f-cKŭZ.i ũeeiY ũ b|

**cŭ 6.3**

**evsj vť`ťki b`-b`x**

**Dťĭk`**

**GB cŭ t\_ťK Avcŭb**

- 1 evsj vť`k cĀvb b`x,ťj v mťŭŭ RvbtZ cviťeb,
- 1 cĀvb b`x,ťj vi DrcŭĒ RvbtZ cviťeb,
- 1 t`ťki b`x,ťj vi eYŕv ũťZ cviťeb|

**6.3.1 evsj vť`ťki b`-b`x**

evsj vť`k b`xgvZK. t`k| b`x,ťj v evsj vť`ťki cŕY| Rvťj i gťZv tQťq \_vKv b`xmgťni MŭZc\_ AvKvevKŭj Zťe Gť`i GB MŭZc\_ me mgq GK \_vťK bv| cŕqB cŭieZŕ nq| AťbK b`x c\_ gťi ŭMťqtQ, cĕ`l b`x msKxYŕnťq cťoťQ; Avevi AťbK b`x bZb LvťZ eťq PťjťQ| tKŭ\_vl Avevi cŭjZb bvg| nŭiťq ŭMťqtQ| eZŕvťb evsj vť`ťki b`xi msL`v cŕq 700| Dcb`x l kvLv b`x mn tgvU ``N© cŕq 22,155 ŭK.ŭg.| evsj vť`ťki b`x,ťj vťK Pviŭ fvťM fvM Kiv hvq| thgb :

- 1) M½v-cŭv,
- 2) ePcŭŭ-hgbv
- 3) tgNbv,
- 4) `ŭŕYceŕťki b`xgvj v|

ubtP evsj vt`tki cãvb b`xmgñ, M½v-cÙv, eþcÿ-hgþv, tgNbv I KY@žx b`xi eYþv  
t`l qv nj |

### 6.3.2 M½v-cÙv

ga` wngij tqi M½v-cÙv bvtg wngenv t\_þK Drcbæntq M½v b`x DËi fviþZi tek  
KtqKwU ivR` AwZµg Kti evsj vt`tki ivRkvnx tRjvi cwiðgþtk evsj vt`tk cðek  
KtiþQ| M½v cÙtg ivRkvnx tRjvi `wŕY-cwiðg w`K t\_þK cëvvnZ ntq cãq 145  
wK.wg. chšl evsj vt`k-fviþZi gta` mægv ubt`R Kti| cti Kwqv tRjvi DËi-cwiðg  
cšl w`tq evsj vt`tk cðek Kti| Gi ci M½v Avtiv `wŕY-ce`w`þK AMñi ntq  
Pucþji KvtQ tgNbv b`xi mvt\_ wngij Z nq Ges tgNbv bvtg eþ½vcmwMti cwiZZ nq|  
evsj vt`tki Ab`Zg epËg b`x M½v-cÙv| M½v-cÙv metašZ AĀtj i AvqZb 34,188  
eM`Ktj wnglvi |

evsj vt`tk M½v-cÙvi kvLv b`xi gta` Dþj lþhvM` nþ`Q gv\_vfv½v, BQvgnZ, Kqvi,  
KtçvZvŕŕ, wPŕv, beM½v, MovB, gaswZ Ges Avmoqj Luþ gv\_vfv½v meþtq cwiðg  
Aew`Z Ges GB kvLv b`x evsj vt`k I fviþZi gvtS wKQyit-mægvbv mwþ KtiþQ| MovB  
gaswZ cÙvi eo kvLv b`x,tjvi Ab`Zg| Avmoqj Luþ Ae`vb meþtq cþeþ  
Avmoqj Luþ GK mgq M½vb`xi gj- aviv wQj etj gþb Kiv nq| MovB-gaswZi  
cwiðg kvLv b`x,tjvi Zjþ`tk cwj Rgv nevi dtj AþbK b`xi MwZcþ\_i cwi eZþ  
ntqþQ| Avevi AþbK b`x cwb enb Kivi ŕŕgZv nwmþq tdþtþQ| th AĀtj G  
b`xmgñi Ae`vb, tmB AĀj wþK `gZcãq e-ðxc ejv nq| MovB-gaswZi ce`w`þK  
Aew`Z b`x,tjv mwµq Ges G AĀtj e-ðxc MvB KvR Ae`vnZ iþtþQ| MovB-gaswZ  
t`tki GKwU , ižcY`Avf`šlirY tbs`c\_ | evsj vt`tk M½v b`xi cãvb Dcb`x gnvb`v|  
cþfþv, bvMi, cvMjv, Kþj K I U`vsMb gnvb`vi Dcb`x|

### 6.3.3 eþcÿ-hgþv

eþcÿ b` wZelþZi gubm mþivei t\_þK Drcbæntq Avmþtgi wŕZi w`tq cëvvnZ ntq  
eþcÿ KwMðg tRjvi KvtQ evsj vt`tk cðek KtiþQ|

1787 mþtj AvþM eþcÿi cãvb aviwU gqgbwmsn tRjvi ga` w`tq DËi-cwiðg  
t\_þK `wŕY-ce`w`þK cëvvnZ ntq `fie evRvþi KvtQ tgNbv mvt\_ wngij Z nþZv|  
1787 mþtj GK cþj eb`v nq| GB eb`vi dtj evowZ cwb aviY KiþZ bv tcti  
eþcÿi cwb GKwU ŕŕž`Dcb`x w`tq tmvRv `wŕYw`þK GK bZb LvþZ cëvvnZ nþZ  
\_vtK| G bZb tmþZaviwUB hgþv| Avi mvtþK eþcÿ GKwU ŕŕ`tmþZaviwþc cþvZb  
eþcÿ bvtg AvRI etq PþtþQ| cKZcþŕŕ G KvþY cþvZb eþcÿ I hgþvi  
mstþvM`j t\_þK `wŕŕþY tMvqj` chšl AskB hgþv b`x| tMvqj þ`i KvtQ hgþv,  
M½vi mvt\_ wngij Z ntq cÙv bvg aviY KtiþQ| hgþvi kvLv b`x atj kþx Ges atj kþxi  
kvLv b`x epwM½v| aijv, wZ`v, KiþZvqv I AvŕvB hgþvi cãvb Dcb`x|

### 6.3.4 tgNbv

wþtj U tRjvi mþgv I Kwqviv b`x wngij Z ntq mwþ ntqþQ tgNbv b`x| Avmþtgi eivK  
b`x bvMv-gubcþj AĀj t\_þK Drcbæntq mþgv I Kwqviv bvtg `wþ kvLvq wef`³ nq



**iPbıgıj-K cıkæ**

1. eısj vıı`ıki b`xmgııni fıvM,ııııK ııK?

**iPbıgıj-K cıkæ**

1. eısj vıı`ıki b`-b`xi ııeiY ıı`bı



36%)veivR Kti|| Zte KLbl KLbl Avenl qvi tMvj thvMi Rb", wekI Kti  
btfat-wwtmat gvtm etzvcmMi t\_tK AvMZ NvStoi crite kxZKvtj epcvZ nq/  
G mgq epcvZi cwi gvY 10 tm.ug. Gi tek nq bv|

**6.4.3 MŠKvj** : gvP\_tK tg gym chŠi MŠKvj | tdeywi t\_tK ZvcgvĪv μgk :  
evotZ \_vtK Ges Avenl qv cŏq i\_ \_vtK| GvcĶ DòZg gym|

**ZvcgvĪv** : evsj vt`tk MŠKvj xb mtePP ZvcgvĪv 34° tmj imqvm Ges meB=21°  
tmj imqvm| DòZg mgq GvcĶ gvtm mtePP ZvcgvĪv 28° tm.| DcKj eZP AĀtj  
mgjtĶ crite t`tki AfŠti i tPtq ZvcgvĪv Kg \_vtK| Aveni t`tki ceĀtj I  
ZvcgvĪv cwiġvĀtj i tPtq Kg| Kvi Y G mgq ceĀtj wKQyepcvZ nq|

**epcvZ** : evsj vt`tk MŠKvj xb cāvb `enkó" Kij %kvLx So| Eò I Av`EG FZž  
Kvj %kvLxi dtj wKQyepcvZ nq| GvcĶ gvtm, mvaivYZ cwiġ I DĒi-cwiġ w K  
t\_tK AvMZ GB So NĒvq 40 wK.ug. t\_tK 80 wK.ug. tetM cĕvvnZ nq| eR<sup>a</sup> I  
KLbl KLbl wkvjmn cĕj tetM cĕvvnZ Kvj %kvLx So Aí mgqi gta" cĕj el<sup>Ÿ</sup>  
Nlvq| mteM etq hvl qv So tek Ÿlq-ŸlvZI Kti \_vtK| evsj vt`tki tgvU epcvZi  
cĕB fvtMi GK fvm epcvZ Kvj %kvLxi ōvrv msNlvZ nq|

**6.4.4 elKvj**

Rly gvtmi gvSvgnS evsj vt`tk elKvj i iynq| `vqx nq At±vei chŠi| kxZKvtj th  
evqyetq Avtm DĒi t\_tK, tm evqzĕvtni w K m<sup>au</sup>Ÿ<sup>c</sup>wieZB ntq elKvtj cĕvvnZ  
ntZ \_vtK `wŸY w K t\_tK| `wŸY w K t\_tK AvMZ etzvcmMti i Rj xqev<sup>ú</sup>Ÿ<sup>c</sup>  
evqžK `wŸY-cwiġ tgšm<sup>gx</sup> evqjev nq| Rly gvtmi wZxq mBvtni gvtSB t`tk tgšm<sup>gx</sup>  
evqj AvMgb NtU| i iynq evsj vt`tk elFZž

**epcvZ** : tg-Rly gvtm DĒi fvižZ Mfxi wB=Ųtci m<sup>jo</sup> nq| fviZ gnvmMi I  
etzvcmMti i Dci w tq AvMZ tgšm<sup>gx</sup> evqycĕj Rj xqev<sup>ú</sup> enb Kti evsj vt`tki Dci  
w tq avneZ nq| GB evqj criteB mgMōevsj vt`tk G mgq cĕj epcvZ nq| Avi  
epcvZi cwi gvY t`tki cte<sup>o</sup>tek, cwiġ Kg|Gi Kvi Y `wŸY t\_tK etq Avmv  
Rj xq ev<sup>ú</sup>Ÿ<sup>c</sup>evqycĕj DĒi ceštiki cinvox Gj vKvq evavcĕB ntq cĕg epcvZ  
wmtj U AĀtj Nlvq| epcvZ ntj Rj xqev<sup>ú</sup> Ktg hvq| AtcŸlvKZ.Kg Rj xqev<sup>ú</sup> cŸ<sup>c</sup>  
G evqyZLb cwiġ tgvo tbq| cwiġ fvižZi wB=Ųvc AĀtj hvl qvi ct\_ epcvZ  
Avt`I Avt`I KgžZ \_vtK| ZvB ceĀtj wmtj ŸUi DĒi w tK hLb epcvZi cwi gvY  
cŏq 250 tmwUvgUvti i tek ZLb cwiġvĀtj i vRkvix, cvebv I Kwoqv tRj vq eml R  
epcvZi cwi gvY 170 tmwUvgUvti i Kg| evsj vt`tk Mo tgšm<sup>gx</sup> epcvZ 120 t\_tK  
345 tm.ug. |

evsj vt`tk Avi `Bw FZzt`Lv hvq, h\_v- emšKvj I tngšKvj | Zte GB `B FZz  
ŸY`vqx| emšI tngšKvtj i mgq Aí etj Rj evqžZ Gt`i crite Aí | kxZi tktI  
MŠ<sup>si</sup> Avtm emšKvj Avi elKtI kxZi i ižZ tngšKvj |

**mvisk**

evsj vř`tki Rj evqyDcμvšřq tgšmřx Rj evqybřtg cwiıPZ| cřvb FZzkxZ, Mřš I  
eIř| mřeřP Zřcgvřv 34° tm. Ges meřeře9° tm. | Mo tgšmřx evřcvZ 120 t\_řK  
345 tm.ıg. | Rvbsřvi křZjZg I Gřcř DřZg gřm| Rř t\_řK Ařvei gřm  
meřcřřv evřeřj |

#### **cřvřEi gj`vqb 6.4**

**mřřK Dřři i cřk řK (l) řř vř b|**

1. evřcvZ I Zřcgvřvi Dci řřřE Kři evsj vř`tki cřvbZ KřıU FZř  
(K) řZb (L) Pvi (M) Qq (N) mřZ
2. Křj řevřLx So řKvb FZřZ mřaviYZ msNřWZ nq?  
(K) MřřKřj (L) emřKřj (M) křZKřj
3. FZřvřevřřbi mř\_ mř\_ řKvb evqřevřřni ř K cwi evřř nq?  
(K) Rj evqy (L) tgšmř evqy (M) μvřřq evqy(N) řbqZ evqy

**Dřři : 1| K 2| K 3| L**

**mřřřB cřře**

1. evsj vř`tki FZřgř řK řK?

**iPřvj-K cřře**

1. evsj vř`tki Rj evqy řeeiY řř b|





MtQi wkKo gnuU ati ti tL gnuUi qqtiva Kti | eb Avktq t`q I Lv` thvMvq kZ kZ  
KxUcZ½, ci, cml I RxeRŠž |

(4) evsj vt`tki ebvAj JIwa MtQi fivUvi | gaejy e tbi nwiZwK, etniv, ubg,  
AvgjwK, ARØ MtQi wkKo, evKj, dj BZ`w` JIa`Zwii KvR e`eüZ nq |  
evsj vt`tk cŁZ eQi my`ie b t`tK cPjy cwi gvY gaynsMh Kiv nq |

(5) evsj vt`tk miKvii eb wfvM th me e tbi e`e`vcbv Kti tm, tj vtK miKvix  
AiY` etj | GB miKvix AiY`i m`u` miKvii Avtqi GKwU Drm |

Dctii Avtj vPbv t`tK tevSv hvq th, eb Avi e tbi m`u` Avgv`i KZ cŁqvRb |  
cŁkwZK eb tK i qv Kiv Avgv`i thgb KZ@, wK tZgwb wbtRi ewo, t`j i Avtk  
cvtk th tKv bv tLjv RvqMv thgb cŁž cvo, iv`v/b`xi avti ebR I dj R MwQ  
j vMvb I hZæbl qv DvPr |

### **mvisk**

e qivwri mgviti vtK eb ev AiY` etj | eb t`tK cvlqv mvgMh ebR m`u` |  
evsj vt`tk wZb aitYi eb itqtQ | ebvAj cŁqvRtbi Zžbvq Kg | Gt`tki tgvU  
AvqZtbi cŁq 13 kZvsk fig AiY`veZ | AiY` t`tK wvfbæmvgMh Avgv`i wvfbæ  
KvR j vtM |

### **cvVvEi gj`vqb 6.5**

**mWk DEti i cvtk wK (l) wpy w b |**

1. evsj vt`tki KZ kZvsk Gj vKv AiY`veZ?  
(K) 14 (L) 11 (M) 13 (N) 15
2. my`ie b tKv`vq Aew`Z |  
(K) XvKvq (L) cveZ` PÆMh`g (M) Ljyv (N) wmtj U
3. PÆMh`g/cveZ` PÆMh`g tKvb aitYi eb fig AvtQ?  
(K) mvšlq cvZvSiv (L) tmžR (M) mvšlq wPimeR (L) kvj eb

**DEi : 1 | M 2 | M 3 | M**

### **msv`jB cŁæ**

1. tmžR ev Mivb eb fig wK?

### **iPbvj-K cŁæ**

1. evsj vt`tki ebR m`u`t`i wveiY w b |





mi½ycKí : cveZ" PÆMôgi ev`ievb tRjvq mi½yb`xi I ci eia w`tq `wncZ cmb  
we`y tK`u mi½ycKí bvtg cwiwPZ| GLvfb eQtí cûq 80 nvrvi wKtj vl qvU we`y  
Drcv`b Kiv mæe nte|

**epcy cKí** : gqgbimsn kníi KvQ epcy bti I ci eia w`tq 80 nvrvi  
wKtj vl qvU we`y Ercv`tbi ¶gZv mæúbaGKwU cmb we`y cKí `vcb Kiv ntqtQ|

#### 6.6.4 Zvc we`y

th me GjuKvq cmb we`y Drcv`b Kiv mæe bq tm me GjuKvq Zvcwe`y tK`a  
wbgy Kti we`y Gi Pwin`v tglv nq| evsj vt`tk Zvcwe`y Gi Drm cûKwZK M`vm,  
LibR tZj I Kajv| t`tki Pwin`v AbsvtZ we`y Gi Drcv`b AþK Kg| Pwin`v  
cítYi Rb` tek KtqKwU Zvc we`y Drcv`b tK`a Mto tZjv ntqtQ| Gme tK`a  
Mto cûq 2400 t`tK 2700 tgmvl qvU Zvcwe`y Drcv`b Z nt`Q| Pwin`v cûq 3000  
tgmvl qvU|

evsj vt`tk KtqKwU Zvcwe`y tK`a mgtni weei Y t` I qv nj |

**AviMÄ Zvcwe`y tK`a** : etpYvemoqv tRjvi AviMÄ G tK`u Ae`vb| cûKwZK  
M`vm e`envi Kti G tK`u we`y Drcv`b Kti| GLvfb we`y Drcv`tbi KvR`i iynq  
1970 mtj | GB Zvc we`y Drcv`b tK`a ¶gZv nj 1 j ¶ 10 nvrvi wKtj vl qvU|

**tNvoikvj Zvcwe`y tK`a** : 1 j ¶ 80 nvrvi wKtj vl qvU we`y Drcv`tbi ¶gZvmæúba  
tNvoikvj Zvc we`y tK`u, bimsiw tRjvi tNvoikvj Aew`Z| GLvfb cûKwZK M`vm  
e`envi Kti we`y Drcv`b Kiv nq|

**kinRievRvi we`y tK`a** : wmwxiMÄ bviqbMÄ tRjvq Aew`Z| GLvfbKvi Zvcwe`y  
tK`a cûKwZK M`vm w`tq we`y Drcv`b Kiv nq| wmwxiMÄ Zvcwe`y tK`a 80  
nvrvi wKtj vl qvU we`y Drcv`tbi hvi AwKvskB XvKv I bviqbMÄi AvevmK I  
wki Kvi Lvbrq e`envi Kiv nq|

**ivl Rub we`y tK`a** : 80 nvrvi wKtj vl qvU we`y Drcv`b ¶gZv mæúbaGB Zvcwe`y  
tK`u PÆMôg kni I Avkcvtki GjuKvq we`y mieivn Kti|

#### 6.6.5 kwi³ mæú` : LibR tZj

evsj vt`tki G AÄtj 1910 I 1917 mtj h\_vµtg PÆMôg I wntj U AÄtj tZj  
AbjvÜvb KvR` nvtZ tbi qv nq| cti 1955 mtj wntj U kníi KvQ nwi cy Avevi I  
tZtj i mÜvfb Kc Lbb Kivi mgq evsj vt`tk cûg cûKwZK M`vm Avne`Z.nq| Zte  
1986 mtj GB nwi cti B cûKwZK M`vtmi mBg Ktc tZj cvl qv tMtQ| G Kc t`tK  
w`tq cûq 600 e`vtij tZj tZjv ntqtQ| 1994 mij t`tK G Ktc tZj D`Evj b eÜ  
AvtQ|

tZj Kc t`tK Acwi tkwaZ tZj tZjv nq| cti GB Acwi tkwaZ tZj PÆMôgi tZj  
tkvabvMtí cûquvRvZ Kiv nq| tZj t`tK tctUij, tKti wmb, weUwgb, wwtRj cvl qv  
hvq| eZgvtb cûq wbuðZ fite ejv hvq th, evsj vt`tk ht`ó cwi gvty LibR tZtj i  
gRZ AvtQ| t`k `vaxb nqv ci PÆMôg DcKjeZP AÄtj tek wKoywet`wk

tKv<sup>u</sup>mb Rvi c Pij vq | Zvi B avivemKZvq eZ<sup>g</sup>vtb e<sup>u</sup>RvZxK tKv<sup>u</sup>mb evsj vt`tk  
tZj Abm<sup>u</sup>vtb Kc Lbb Kivi Rb` c<sup>o</sup>ij `et`<sup>u</sup>kK g<sup>y</sup>l weib<sup>o</sup>qm Ki<sup>o</sup>Q | evsj vt`tk  
LubR tZj Avie<sup>o</sup>Z.n<sup>o</sup>tj t`tki A\_<sup>o</sup>buZK Ae<sup>-</sup>vi weivU cwieZ<sup>o</sup> nte etj Avkv Kiv  
hv<sup>o</sup>Q |

**miisk**

Kaj v, LubR tZj I c<sup>o</sup>KuZK M<sup>i</sup>vm k<sup>w</sup>3 i c<sup>o</sup>vb Drm | evsj vt`tk k<sup>w</sup>3 m<sup>o</sup>ut` i Afie  
i<sup>o</sup>q<sup>o</sup>Q | k<sup>w</sup>3 m<sup>o</sup>ut` i g<sup>o</sup>ta` c<sup>o</sup>KuZK M<sup>i</sup>vtmi D<sup>o</sup>ij L<sup>o</sup>thvM` gR<sup>z</sup> i<sup>o</sup>q<sup>o</sup>Q | LubR tZj i  
gR<sup>z</sup> KZ Zv GLbl Avgiv m<sup>o</sup>WK fi<sup>o</sup>te Rvb<sup>o</sup>Z c<sup>o</sup>mb | evsj vt`tk we`<sup>o</sup>yr-Gi c<sup>o</sup>vbZ  
`<sup>o</sup>tlv Drm c<sup>o</sup>mb I Zvc |

**cv<sup>o</sup>V<sup>o</sup>Ei gj`vqb 6.6**

**m<sup>o</sup>WK D<sup>o</sup>E<sup>o</sup>i i cv<sup>o</sup>k <sup>o</sup>WK (l) <sup>o</sup>P<sup>o</sup>y <sup>o</sup>w<sup>o</sup>b |**

1. t`tki c<sup>o</sup>mb we`<sup>o</sup>yr tK<sup>o</sup>`<sup>a</sup> tKv<sup>o</sup>vq Aew<sup>-</sup>Z?  
(K) cve<sup>o</sup>Z` P<sup>o</sup>EM<sup>o</sup>g (L) P<sup>o</sup>EM<sup>o</sup>g (M) Avii M<sup>o</sup>A
2. Zvc we`<sup>o</sup>yr Gi Drm <sup>o</sup>WK?  
(K) c<sup>o</sup>mb, eid (L) cv<sup>o</sup>\_i, M<sup>i</sup>vm (M) M<sup>i</sup>vm, Kaj v, (N) c<sup>o</sup>mb, cv<sup>o</sup>\_i
3. Avii M<sup>o</sup>A, tN<sup>o</sup>ovkvj , <sup>o</sup>m<sup>o</sup>x<sup>o</sup>i M<sup>o</sup>A GB <sup>o</sup>uZb <sup>o</sup>v<sup>o</sup>tb <sup>o</sup>WK i<sup>o</sup>q<sup>o</sup>Q?  
(K) c<sup>o</sup>mb we`<sup>o</sup>yr tK<sup>o</sup>`<sup>a</sup> (L) M<sup>i</sup>vm we`<sup>o</sup>yr tK<sup>o</sup>`<sup>a</sup>  
(M) c<sup>o</sup>KuZK M<sup>i</sup>vm (N) Zvc we`<sup>o</sup>yr tK<sup>o</sup>`<sup>a</sup>

**D<sup>o</sup>E<sup>o</sup>i : 1 | L 2 | M 3 | M**

**ms<sup>o</sup>v<sup>o</sup>B c<sup>o</sup>k<sup>o</sup>e**

1. evsj vt`tk LubR tZj tKv<sup>o</sup>vq cvl qv hvq |

**iP<sup>o</sup>bu<sup>o</sup>j-K c<sup>o</sup>k<sup>o</sup>e**

1. evsj vt`tki k<sup>w</sup>3 m<sup>o</sup>ut` i weeiY <sup>o</sup>w<sup>o</sup>b |

**cW 6.7**

**evsj v`tki kv`m`u` : c`KwZK M`im**

**D`i`k`**

**G cW tk`l Av`ob**

- 1 evsj v`tk tKv\_vq tKv\_vq M`im cvl qv wMtq`Q tm m`fU Rvb`teb,
- 1 c`KwZK M`im wK wK Kv`R e`euZ nq Zv ej tZ cvi`teb|

**6.7.1 figKv**

cvV Qq t`\_tK tR`tb`Qb th evsj v`tk tZj AbyU`vb Ki`tZ wMtq 1955 mtj c`KwZK M`im Ave`Z.nq| GB c`KwZK M`imB GLb chS`i`tki GKgv`T , i`z`c`R`j vbx m`u` | c`KwZK M`im R`j vbx wmt`te Ave`mK I wK`i` KviLv`vq e`euZ nq| c`KwZK M`im Avgv`i` i`e`y` Drcv`b KviLv`vri A`tbKv`tk Pw`n`v` tgvUq I mvi KviLv`v`\_tj v c`v`b K`v`v`g`j wmt`te c`KwZK M`im e`envi K`ti | G`t`\_tk M`im Aw`Z Db`z` gv`tb i | eZ`g`v`tb evsj v`tk tgvU R`j vbx i, kZKiv 16 fvMB nj c`KwZK M`im|

**6.7.2 Ae`vb**

evsj v`tk tgvU Ave`Z.c`KwZK M`im t`q`i`msL`v 20wU| Z`te gv`T 12wU M`im t`q`i` t`\_tK eZ`g`v`tb M`im D`f`E`j b Kiv n`f`Q| evsj v`tki M`im t`q`i`\_tj vi Ae`vb c`v`bZ ce`f`tk| en`E`i wmt`j U, K`v`j`v, t`b`v`q`v`L`w`j I P`A`E`M`g`-c`v`e`z` P`A`E`M`g` A`A`\_t`j | w`b`\_t`P`i mvi Y`x`Z m`st`q`i`c evsj v`tki M`im t`q`i`\_tj vi wK`Q`y`Z`\_` t`\_l`q`v` n`t`j`v|

**mvi Yx 6.7.1**

th me t`q`i`t` D`f`E`j b n`f`Q :

t`q`i`t`/Ae`vb	(tR`j`v)	Ave`vi mvj	Drcv`b`q`l`g`Zv`c`v`Z`v`b`w`_t`b (w`g`w`j`q`b`w`K`D`w`e`K`w`d`U)
evL`i`v`e`r`_` ,	K`v`j`v`	1969	35.0
n`w`e`M`A`_` ,	n`w`e`M`A`_`	1963	195.0
`K`j`v`k`w`l`j`v`_` ,	w`m`t`j`U`	1962	110.0
i`w`k`_`c`j`_` ,	t`g`S`j`f`i`e`v`R`v`i`	1960	85.0
n`w`i`c`j`_`	w`m`t`j`U`	1995	6.0
w`Z`Z`v`m`_` ,	e`f`p`Y`e`w`o`q`v`	1962	300.0
b`i`w`m`s`_`x`_` ,	b`i`w`m`s`_`x`_`	1990	21.0
m`v`_`1`_`2`_`y`_`	P`A`E`M`g`_`	1996	128.0
k`v`j`_`_`v`b`_`_`x`_` ,	K`v`j`v`_`	1996	15.0
R`v`j`_`v`j`_`v`e`v`_`_` ,	w`m`t`j`U`	1989	100.0
w`e`q`v`b`i`e`v`R`v`i`_` ,	t`g`S`j`f`i`e`v`R`v`i`	1981	18.0
t`g`N`b`v`_`	b`r`i`v`q`Y`M`A`_`	1990	20.0

ii) th me tḡḡḡ Drcv`b eÜ		
QvZK,	mḡvgMÄ	1959
KvgZv,	MvRxcj	1981
tdbx,	tdbx	1981

iii) th me tḡḡḡ tKvḡbv DḡEj b nqub		
teMgMÄ,	tbvqvLwv	1977
tdÄMÄ,	mḡvgMÄ	1988
KZw`qv,	PAEMög	1977
kvnevRcj		1995
tmgZs,	LvMoiQwo	1969
weweqvbn,	wḡḡ U	1998
tgšj fxevRvi,	tgšj fxevRvi	1999
mŷ :	tcḡUveisj v	

meÜg wḡḡ tUi nwi cŷ M'vmḡḡḡ Ave®Z. nq 1955 mḡḡ | Gw wḡḡ U M'vmḡḡḡ wḡḡḡ cwi wPZ | 1996 mḡḡ Ave®Z. nḡḡḡḡ mḡḡḡḡ kŷ `vb`x | meḡḡḡ Ave®Z. weweqvbn | tgšj fxevRvi tḡḡḡ `wḡḡ M'vḡḡḡ cwi gvY GLb | Abḡḡḡ Kiv hvqub | eZḡḡḡ M'vm DḡEj b nq wZZvm, nweMÄ, evLiver`, `Kj vkwlv, iwk`cŷ, nwi cŷ, bi wms`x, tgNbv, mḡḡḡḡ kŷ `vb`x, Rŷ vj ver` | weweqvbn M'vmḡḡḡ t\_ḡḡ | QvZK, KvgZv | tdbxi DḡEj b eZḡḡḡ eÜ Avḡḡ |

### 6.7.3 cÜKwZK M'vḡḡḡ e`envi :

cÜKwZK M'vm evsj vḡ`ḡki AvZ , iZcYRŷ vbx m`u` | 1988-Gi Avḡḡ cÜKwZK M'vm i`agv` e`envi nḡZv tdÄMÄ mvi Kvi Lvbn Ges QvZK wḡḡḡ U Kvi Lvbn | wZZvm M'vm Ave®Z. nI qvi ci cÜKwZK M'vḡḡḡ e`envi teḡḡ hvq | cÜKwZ. M'vm GLb e`eüZ nq wki Kvi Lvbn Rŷ vnb | Kvbḡḡḡ wḡḡḡḡ I w`f Drcv`ḡḡ | AvevwmK Rŷ vbx wḡḡḡḡ | Gi Pwv`v w`b w`b teḡḡ Pḡḡḡ |

wbḡḡ cÜKwZK M'vḡḡḡ e`envi Avḡḡ vPbv Kiv nj :

w`ŷ Drcv`b : Zvcw`ŷ tKḡ`a cÜKwZK M'vm e`eüZ nq | dvḡḡḡ tZḡḡ i cwi eḡḡ cÜKwZK M'vm e`envi Kḡḡ Kg Liḡḡ w`ŷ Drcv`b Kiv hvq | kvnRxevRvi, wmw`iMÄ, Av`iMÄ, tNvovkvj dÄMÄ, ivl Rvb, wKj evn | nwi cŷ w`ŷ tKḡ`ḡḡ cÜKwZK M'vm e`envi Kḡḡ | wki Kvi Lvbn Kvbḡḡḡ | Rŷ vnb Kḡḡ Qvov | evsj vḡ`ḡḡ tdÄMÄ, tNvovkvj | Ab`vb` mvi Kvi Lvbn, tḡḡḡ M'vm Kvbḡḡḡ wḡḡḡḡ e`eüZ nq | ivevi, cwi`K, Kwlg Zšz KxUbvkK JIa cÜZ Kḡḡ cÜKwZK M'vḡḡḡ cÜqvRb | QvZK wḡḡḡ U Kvi Lvbn, wḡḡḡ U KvMRKj, wḡḡḡ U AÄḡḡ i tek wKQyPr evMvb Aḡḡḡ w`b aḡḡḡ Rŷ vbx wḡḡḡḡ cÜKwZK M'vm e`envi Kḡḡ Avḡḡḡ | GQvov XvKvi wki, ewYR, AvevwmK, me tḡḡḡḡ cÜKwZK M'vm cävbn Rŷ vnb | G M'vm mieivn nq wZZvm M'vmḡḡḡḡ

t\_#K| Aciw`#K PÆMÖtg M`vm mieivn nq cävYZ eLivev` t\_#K| w#Pi mvi Yx#Z  
 tKv#bv tKv#bv t¶¶#T evsj v`#k `w#K w#K cwi gvY M`vm e`eüZ nq Zv t`Lv#bv nj |  
 mvi Yx 7.2

w#fba#¶¶#T `w#K M`v#mi e`env#i i cwi gvY  
 e`env#i i t¶¶#T

cwi gvY  
 (w#ij qb w#KDieK w#U)

kiv <sup>3</sup> /we`y	425.0
mvi	260.0
w#i	143.0
emYwR`K	15.0
AvenmK	100.0
Pv-evMvb	4.0
B#Ui f#w	3.0
tgwU	950.0

m# : t#U#evsj v, 1999

### **mvisk**

evsj v`#k cöKwZK M`v#mi cöP#i t#tQ| cö\_g Ave®Z.t¶¶#T w#tj #Ui nwi cy 1955  
 m#tj | eZ@#b Ave®Z.M`vm t¶¶#T i msL`v 20, Avi M`vm D#E#j b n#`Q 12wU t¶¶#T

t\_#K/ t97\_ t\_j vi Ae^-vb cãvbZ t`tki ceA\_tj / c0KwZK M'vpmi e`envi A#bK/  
we#kl Kti we`y Drcv`b I mvi Drcv`tb/ XıKıq c0KwZK M'im cãvb Rj j vbx/

**cuŋVvĚi gj-vqb 6.7**

**mivK DĚti i cuŋk wK (l) wPý w`b|**

1. eivsj vŋ`ŋk me@ŋg tKv\_vq M'vm Avve®Z.nq?  
(K) wZZvm (L) `Kj vkuUjv (M) nivi cý (N) nveMÄ
2. eZŋvŋb KquU tŋŋĪ t\_ŋK M'vm DŋĚj b nŋ"Q?  
(K) 12uU (L) 20uU (M) 7uU (N) 11uU
3. ŋ`ŋk cŋKwZK M'vŋmi e`envi tKiv tŋŋĪ meŋPŋq teŋk ?  
(K) AvemK (L) mvi Drcv`b (M) kv³/we`y (N) Pv-evMvb

**DĚi : 1| M 2| L 3| K**

**msuŋŋB cċæ**

1. eivsj vŋ`ŋki cŋKwZK M'vm tŋŋĪi Ae`ivbmgŋ tKv\_vq|

**iPbvj-K cċæ**

1. eivsj vŋ`ŋki cŋKwZK M'vŋmi e`envi Avŋj vPbv Ki ly|



gqvqbgvi, tbcvj, fviZ cfiwZ. t`tk| eZgvtb t`tki Pwin`v wguUtq AvtMi gZv Av  
 iBmb Ktibr| eis KvMRRvZ `e` cÜZ Kivi Rb` evsj vt`kK cÜZ eQi Avg`vbx  
 KitZ nq gÜyUKiv/tQav KvMR, tccvi tevW®BZ`w | evsj vt`tki KvMR Kj ,tjv  
 jvfRbK cÜZövtb cwi YZ KitZ cÜqvRb KvPvgvtj i möznieivn, chß we`f mieivn  
 Ges möye`e`vcbr|

**6.8.3 mvi ukí**

evsj vt`k Kul.cäv t`k wKšZ`Remvi thgb tMrei ev wguKZ mvtii (Kt`áúv÷) chßß  
 mieivn tbB| ZvB Kul. t¶¶T`Re mvtii mvt\_ mvt\_ Kul`g mvtii e`envtiii AwZ  
 cÜqvRb| Avevi, D`P dj bKxj avtbi cPj tbi mvt\_ i mivqubK mvtii Pwin`v l e`envi  
 AtbK tefo wMtqtQ|

evsj vt`tki cÜKwZK M`vmK wFwE Kti Mto Dtvto teuki fivM mvi KviLvbr| tdÄMÄ  
 mvi KviLvbr t`tki cÜg mvi KviLvbr| hv`vncZ ntquQj 1961 mvtj wmtj tUi nwi cYj  
 M`vmK tK`a Kti | wbtPi mvi YtZ evsj vt`tk mvi KviLvbrmgfni Ae`vb, Drcw`Z  
 mvi l e`eüZ cäv KvPvgvtj i Z` t` l qv nj |

mvi KviLvbr i Ae`vb	Drcw`Z mvi	e`eüZ cäv KvPvgvj
tdÄMÄ	BDwi qv	cÜKwZK M`vm
	A`vtgmbqvg mij tdu	
tNvovkij	BDwi qv	cÜKwZK M`vm
	A`vtgmbqvg mij tdu	
Avi MÄ	BDwi qv	cÜKwZK M`vm
	A`vtgmbqvg mij tdu	
PAEMög cZ½v	BDwi qv	cÜKwZK M`vm
	wUcj mövi dmtdu	Avg`vnbKZ.iK dmtdu
cj vk	BDwi qv	cÜKwZK M`vm
hgby	BDwi qv	cÜKwZK M`vm

evsj vt`tk eZgvtb th mvi KviLvbr ,tjv AvtQ Zvt`i Drcv`b ¶¶gZv l cÜZ.Drcv`b  
 `tUvB Pwin`vi Zxbvq Kg| mözi vs cÜZ eQi miKvitK mvi l wUcj mövi dmtdu  
 (wUGmnc) mvi Drcv`tbi KvPvgvj Avg`vnb KitZ nq| mvi Drcv`b evortbri j¶¶`  
 t`tki DEi l `w¶¶YvÄtj miKvix l temiKvix Dtv`vM BDwi qv, wmt½j mövi dmtdu  
 (SSP), WvB G`vtgmbqvg dmtdu (DAP) KviLvbr `vcabi cwi Kíbv itqtQ|

evsj vt`tk epr wktí i gta` mvi ukí Ab`Zg| wBR`^cÜKwZK M`vm l wef`wk cyR l  
 chßß wevbtqvMi gva`tg GB wktí i Avtiv Dbwzi AtbK m`vebv itqtQ| AvMvgvtZ  
 mvi ntZ citi evsj vt`tki i BmbthvM` GK ,iZpcY`cY`|

**mvi usk**

AKul.wFwE`K wktí i gta` evsj vt`tk KvMR l mvi ukí ,iZpcY` eZgvtb t`tk AvtQ  
 6wU KvMR Kj , 4wU tevW¶¶j l 1wU wDRwÜÜ| cÜg KvMR Kj cÜZwZ nq 1953

mvtj P>`#Nvbvq| evsj vt`tk c0KwZK M'vmtK wfiE Kti Mto D#V#Q tenkifvM  
mvi Kvi Lvbr| tdÄM#Ä c0Zw0Z nq t`tki c0g mvi Kvi Lvbr thLv#b Drcw`Z nq  
BDwi qv mvi |

**c#V#Ei gj`vqb 6.8**

**m#K D#E#i i c#k #K (!) #P# w`b|**

1. evsj vt`tk c0g Kte tKv\_vq KvMR Kj `vcb Kiv nq?  
(K) Ljbr 1953 (L) P>`#Nvbv 1958  
(M) cvKkx 1953 (N) P>`#Nvbv 1953
2. KvMR Ktj mvavi YZ e`eüZ KvPvgj #K?  
(K) KvV, etk, c#w÷K (L) etk, cvUKwV, KvV  
(M) cvUKwV, P#y, etk (N) KvV, P#y, c#wóK
3. evsj vt`tk tKv\_vq mvi Kvi Lvbr Av#Q?  
(K) tdÄM#Ä (L) AvRvgi #MÄ (M) #m#x#i MÄ (N) b#v#qY#MÄ

**D#E#i : 1| N 2| L 3| K**

**msv#B c#ke**

1. evsj vt`tki Drcw`Z mvi #K #K?

**iPbvgj-K c#ke**

1. evsj vt`tki KvMR #k#í i #eeiY w`b|
2. evsj vt`tki mvi #k#í i #eeiY w`b|

## **cW 6.9**

### **evsj v`tki Pib I cvU ikí**

#### **Dfík**

##### **GB cW tkfI Avciob**

- 1 evsj v`tki tKv\_vq Pib I cvU ikí Mfo I tVtQ Zv ej tZ cvi teb,
- 1 Pib I cvU ikí Mfo I Vvi mcQtb Kvi Y\_s,tj v ej tZ Ki tZ cvi teb|

#### **6.9.1 Pib ikí**

evsj v`tki Pib Drcv`tbi cãvb Kuvgyj AvL| Dò I Av`Avenl qiq AvtLi Drcv`b fíjtj v nq| Avi th me AÃtj e`vckfíte AvL Pvl ntq \_vtK tm me AÃtj B Pib Kj\_s,tj v `mcZ|

evsj v`tki DEi I cWõg Astk, wefkl Kti, VvKzMvI, cÃMo, tmZveMÄ, gungvMÄ, RqcjnvU, `kõv, RMvZ, KtkviMÄ cfiuz. `vtb PibKj\_s,tj v Aew`Z| bZb Kj `vctbi cwi Kí bv itqfQ PrcvBbeveMÄ, mivRMÄ I SbvB`tn|

1947 mvtj evsj v`tki gvÎ 5vU PibKj vQj | eZgvtb GB msL`v tefo `votqfQ 15vU| KŠzth cwi gvY Pib GB Kj\_s,tj v Drcv`b Kti Zv t`tki tgvU Pwn`vi tPtq Kg|

1996-97 mvtj Drcv`Z Pibi cwi gvY vQj cõq 135 nvRvi tgvUK Ub| Aci v`tki Pibi Pwn`v cõq 3 j`q tgvUK U`tbi KvQvKvQ| ZvB cõZ eQi evsj v`tki Pibi Avsikk Pwn`v tgvUevi Rb`veifbat`k thgb cwiK`vb, fvi Z cfiuz. t`k t`tki Pib Avg`vb Ki tZ nq|

evsj v`tki Drcv`b`q 15vU PibKtj v`tb 21,044 tgvUK Ub AvL gvovB Kti 200-225 Ub Pib Drcv`b Kiv mæe| PibKj\_s,tj v`Z Drcv`b Kg nI qvi cãvb Kvi Y (1) cõqvRbxq cwi gvY AvtLi Afve Ges mieivtni AvbõqZv (2) v`v`vtbi AvL mieivn I (3) AvtLi\_s,o Drcv`b| GB Kvi Ymgfni Rb` evsj v`tki Pib Kj\_s,tj v`Z`q Zv Avbqv Pib Drcv`b nq bv|

#### **6.9.2 cvU-ikí**

evsj v`tki cW\_extZ kxl`vbxq Ges DrKó.tkYxi cvU Drcv`bKvix t`k| Zte 1951 mvtj i AvtM G t`tki GKvU cvUKj vQj bv| cvUKj\_s,tj v `mcZ ntqvQj Kj KvZvi AvtK cvtk| Avi GBme Kj mgfn KuvcvU mieivn nZ evsj v`tki cvU ej q, A\_`f gqgbvmsn, Uv`vBj, Rvgj cý, KtkviMÄ, XvKv I Kvgj v t`tki| 1951 mvtj bviqvMÄ 100 ZvZ v`tq G t`tki cõg cvUKj Av`gRv cvUKj `mcZ nq|

evsj v`tki cvUKtj i msL`v eZgvtb 78| bims`x, tNvovkij, tWgiv, cvjv, Uvz, Kuv`cý, Lwv kcvj, tlvj kni, evUvj x, mxZvKv, evieKv, tdSR`vinvU, Kvj jNvU, `fi eevRvi, Pvcj, tbiqvLwv, Kvgj v, ivRkvx cfiuz `vtb cvUKj itqfQ| XvKv, bviqvMÄ, PÆMõg I Lvjv evsj v`tki cvU vktí i cãvb tK`q

tgvU cvUKtj i gta" c0q 52 kZvsk cvUKj XvKv, bviqbMÄ AÄtj ~mcZ| XvKv-  
 bviqbMÄ AÄtj cvUKj ~vcfb c0vb KviY, G AÄj cvU ejtqi tK>^tj Aew-Z  
 Ges kxZj q|v b`x hvZvqvZ I e>ti i mgeav t`q|  
 cvU t\_#K e`v, PU, `no I K'vbfvm ^Zwi nq| cvtUi mZvi m½ Kvcfm, ckg, tikg,  
 AZmx Ges Ab'vb" mZv uguktq Kof, ci`v, Kvfc0 BZ"wi` `e"wi c0Z Kiv nq|  
 GQvov cvU/PU evsj vt`tki n`ikf'i c0vb DcKiY| e`vM, Rtzv, Mvj Pv, ukLv, cZj  
 I Avi I AfbK Ni mvrvevi mvgMÄZ cvU, PU I `no e`envi Kiv nq|  
 cvU evsj vt`tki 0`Ym' ev 0tmvbj x Auk' bvtg cwi uPZ| KviY GK mgq cvU uQj G  
 t`tki c0vb i BmbKZ.cY" | ZLb tgvU idZvb Avtqi c0q kZKiv 55 fivM AvRZ nZ  
 KivcvU I cvURvZ `e" t\_#K| eZgvb G Ae`vi cwi eZ0 ntqtQ| e`vcKfite Kwi g  
 ZSvZ `e" thgb bvbj b, tiqb BZ"wi i e`envi i iynl qvq vek! evRvti evsj vt`tki  
 cvtUi Pvn`v Ktg tMtQ|  
 ZvQvov evsj vt`tk cvU/cvURvZ `e"wi i Drcv`b LiP tenk nI qvq Ab'vb" t`tki m½,  
 vekI Kti fviZi m½ c0ZthvMZvq u#K \_vKtZ cviQ bv|  
 evsj vt`tki cvU ukf'i DbvZ Ges Av`Z; vbfP KiQ i Bmb emYtR"i Dci | eZgvb  
 vek! GLb cwi tek mPZb ntq DfvTQ| ZvB Kwi g ZSvZ e`envi AvMvgtZ Ktg uMtq  
 cvtUi Pvn`v Avevi I evotZ cvt| tmB cwi w`vzi mthvM vbtZ cvU t`qT I  
 cvUKj mgfni w`K mgzbRi t`lqv c0qvRb| mgeze`e`vcbv, `vbxqfite Kivvgtj i  
 mieivn, `q I mjt f klgK, ve`y, gj-ab/exgv, cwi enb e`e`v, evRvi, miKvti i  
 bmvZ BZ"wi cfwvZ Ki te evsj vt`tki cvUukf' tK|

**mvisk**

evsj vt`tki DEi I cwi g AÄtj uPibKj mgn ~mcZ| eZgvtb 15u uPibKj AvL  
 t\_#K uPib Drcv`b Kti | Drcv`Z uPibi cwi gvY t`tki Pvn`v t\_#K Kg| ZvB  
 evsj vt`k Ab" t`k t\_#K uPib Avg`vb Kti | XvKv, bviqbMÄ, PÄMög I Ljybv  
 evsj vt`tki cvU ukf'i c0vb tK>`q GK mgq tgvU i Bmb Avtqi vmsnfivM AvRZ ntZv  
 cvU I cvURvZ `e" t\_#K| Kwi g ZSvZ `te"i Rb" eZgvb vek! cvtUi Pvn`v Kg|  
 uKšZ evsj vt`k t\_#K cvURvZ `e" thgb e`v, K'vbfvm, Kvfc0 BZ"wi i i Bmb  
 emYtR"i m`tebv GLbI AfbK|

**cvVvEi gj`vqb 6.9**

**mVK DEti i cvk uK (l) uPy w`b|**

- evsj vt`tki uPibKj , tj v tKv\_vq Aew-Z?  
 (K) DEti (L) `uqf'Y (M) DEi I cwi g (N) `uqf'Y cwi g
- evsj vt`tki 0`YZšzvk?

(K) *ciU* (L) *¶Pib* (M) *Kivc¶m* (N) *ti kg*

3. *ciU ¶k¶i i c¶vb tK>`¶tKivU?*

(K) *¶m¶j U-gqgb¶msn* (L) *XivKiv, bvi vqbMÄ, PÆMög I Ljybv*

(M) *bvi vqbMÄ, tbiqvLvij, K¶gj ¶* (N) *XivKiv-U½x*

**DËi** : 1| M 2| K 3| L

**ms¶¶B c¶kæ**

1. *evsj v¶`¶ki ¶Pibi Drcv`b Kg nI qvi KviY ¶K ¶K?*

**iPbiqj-K c¶kæ**

1. *evsj v¶`¶ki ciU¶k¶i i ¶eeiY ¶`b|*

2. *evsj v¶`¶ki ¶Pib ¶k¶i i ¶eeiY ¶`b|*

**cW 6.10**

**evsj v`tki ik`i : e`i/ `Zni tcvkK**

**Df`k`**

**G cW tk`l Av`b**

- 1 evsj v`tki e`ik`i i weeiY w`tZ cvi`eb,
- 1 evsj v`tki `Zni tcvkK m`fU RvbtZ cvi`eb|

**6.10.1 fvgKv**

eZg`tb e`ik`i evsj v`tki c`avb ik`i | Avi `Zni tcvkK i BmbKZ. c`avb cY`  
 mvgM` | G t`tki Avenv l qv e`i/ik`i i Rb` Dch` | uKšbKvPvguj , we`kl Kti, Zjvi  
 Afvte evsj v`tk e`i/ik`i `qsm`uY`bq| evsj v`tk evrmii K et`j Pmn`v 823  
 wgvj qb wgvvi Ges tgvU Drcv`b c`q 450 wgvj qb wgvvi | c`q 50 kZvsk NvUvZ c`fY  
 c`qRbxq Zjv evsj v`tk Drcv`Z nq bv| dtj we`k t`tk Avg`vmbKZ. Zjvi Dci  
 t`tki e`i/Kvi Lvbmgt`ni wbfP Ki`Z nq|

Aciw`tk hwi I `Zni tcvkK Ki Kuvvgj m`uY`we`k t`tk Avg`vmb Ki`Z nq,  
 Gt`tk Ab`vb` t`tki Zjv`vq `f gRvjtZ k`kwi<sup>3</sup> mnRj f` n l qvq Ges we`tki  
 evRv`i Pmn`v vKvq Gt`tk tcvkK ik`i `Z c`hvi jvf Kti`Q| Avevi gmK`  
 h`v`i`o`f gZ Db`Z t`k evsj v`tki gZ Db`qbkj t`k`K Zvi A`v`v`ZK Db`qtb  
 mrvnh` Ki`Z GB ik`i i c`g Ae`vq evsj v`k `Zni tcvkK hZ i Bmb Ki`Z cvi Z  
 h`v`i`o`f ZZB Avg`vmb Ki`Z | A`v` evsj v`tki Rb` tKv`bv tKvUv wQj bv| cieZ`Z,  
 evsj v`k t`tk Avg`vmbKZ. `Zni tcvkK i ubw`v cwi gvY ev OtKvUv` teta t` l qv nq|  
 uKšbGB tKvUv evsj v`tki c`f` GKv ci`Y Kiv m`e nZ bv| m`i k`g I tKvUv GB `B  
 Kvi`Yi m`h`M wbtq e`u we`k ms`v tcvkK ik`i Kvi Lvbv Gt`tk `vcb Kiv i iY`Kti |  
 t`wkq we`btqv`Mi miv` miv` we`k c`R we`btqv`Mi gva`tg `Zni tcvkK ik`i ZvB  
 GZ `Z teta Df`v`Q|

**6.10.2 e`i/ik`i**

c`avbZ m`zv I tikg eqb ik`i wbtq t`tki e`i/ik`i | evsj v`tki D`O I Av`Rj evqj  
 Rb` Gt`tki mZxet`j weivU Pmn`v Av`Q| Avevi GB Rj evqym`zv KivUvi c`f`I tek  
 Dc`thvMx| Zte Kuvvgv`j i Afve ci`Y Ki`Z Zjv i Bmb Ki`Z nq Ges Avg`vmbKZ.  
 Zjvi I ci evsj v`tki e`Kj `tjv wbfP`kxj | Zjv/m`zv Avg`vmb nq cmK`vb, fvi Z  
 Rvcvb, tKviiqv c`f`vZ. t`k t`tk| evsj v`tk eZg`tb e`i/ m`zv Ktj i msL`v 63|  
 Gme Kvi Lvbv mi KviX I temi KviX, Df`q gmvj Kvbvq Pvj y`tq`Q|

e`i/ik`i c`q 10 j`f` k`gK KivR Kti Zte tenki fivM k`gK ZuZ ik`i wbtqv`RZ|  
 ZuZ I nvRvix ev tMw`A/tgvRv `Zni Ges tikg eqb ik`i `f`Z` I Kuti ik`i i AšM`Z|  
 ZuZ ik`i me`c`avb `f`Z` Kuti ik`i Ges M`g`Y A`v`v`Z ZuZ ik`i i Ae`vb A`bK|  
 XvKv, Kvgj v, t`vqvLujx I P`EM`g A`Aj e`ik`i i c`avb tK`v`mg`r| mrvaviYZ  
 e`Kj `tjv t`tki NbemvZc`Y` A`Aj Ges m`zv Kj `tjv ZuZ ik`i c`avb`  
 GjvKv `tjv`Z Aew`Z| XvKv-bv`vqbM`A `i`Z`c`Y`b`x e`i | ZvB (1) ivRavbx kn`i i

mjeav (2) mɔf kɔgK mieivn Ges (6) Av`®RjevqyG AĀtj e`ɔkí Mto I Vvi  
 ucQtb Kvi Y unmiŕe Kvr Kti |  
 PÆMŕg t`tki u0Zxq cĀvb e`ɔkí AĀj | ZZxq cĀvb e`i; ɔkí vĀj nt`Q Kɔgɔ-  
 tɔvqvLwɔj | e`i; Kvi Lvbr Avtív AvtQ htkvi, gv, iv, Kɔq, dmi`cɔj, gv`vi xɔj, cvebv,  
 ivRkɔnx, w`bvRcɔj I ewi kuj tRj vq |

mvi Yx

e`ɔkí vĀj  
 XvKv I Zvi cvk®ZPAAĀj

cĀvb e`Kvi Lvbr tK>`ª  
 U½x, dZžv, bvi vqbmĀ, Kɔcɔj, tWgiv, mrvvi  
 tMv`vBj, tcv`-tMvj v, Uv½vBj, ɔKtkvi MĀ,  
 avgMo, biɔms`x, k`vgcɔj, gvɔvov, Kvj xMĀ  
 tdSR`vi nU, cvBj vBk, tlvj kni, nɔj kni,  
 cvnoZj x, Kɔgiv`Mŕcɔj, t`šj Zcɔj,  
 Kɔgɔ- tɔvqvLvɔj x AĀj eŕpYemoqv,

PÆMŕg AĀj

t`exŕvi, tɔub,

tKvUemo, Pw`bv |

`vaxbZvi ci t`tki me Kuv mžv I e`Kj RvZxqKiY Kiv nq | Zte eZgɔtb e`Kj  
 mi Kvi x I temi Kvi x gvɔj Kivvq cwi Pwɔj Z nt`Q |  
 t`tk ZɔZi msL`v cŕq 2 j ɔ | n`Pwɔj Z ZvZ t`tki meLvɔtb cwi Pwɔj Z nq | Zte  
 ZvZ ɔkí i Rb` cĀm x biɔms`x, Uv½vBj, Kɔgɔ, tɔvqvLvɔj x, cvebv I e, ov AĀj |  
 Gme`vɔtb Dbzgvɔtb ZɔZi Kvco tevbr nq, hv t`tki Pwɔn`vi cŕq GK PZzŕsk  
 ɔgvUɔq`vɔK |  
 ZvZ RvZ`e`w`i gta` kɔo, j ɔ, MvgQv, weQvbi Pr`i, kZi wĀ, L`i Kvco, gvɔj b,  
 gkwi i Kvco cĀvb | evsj vɔ`tki gta` evejvU ZvZ RvZ mvgMŕi meŕPɔq eo MŕgxY  
 nU |  
 evsj vɔ`tki tikg eqb tK>`ª; tɔj v ivRkɔnx I VvKz Mɔq Aew`Z | tikg I GwU  
 Drcv`ɔbi Rb` 12uU mi Kvi x bvmŕx i tɔtQ |

### 6.10.3 `Zvi tcvkK

evsj vɔ`tk 1976 mij chŕl tKvɔv i BmbtɔvM` `Zvi tcvkK ɔkí ɔQj bv | hv` I  
 Af`šl xY evRvɔi i Rb` IvɔUi`kK t`tkB tcvkK `Zvi ntq AvmŕQj | Zvntj t`Lv  
 hvq th `Zvi tcvkK ɔkí evsj vɔ`tki AvZ mɔvúwZK NUbv | cŕg Ae`vq G ɔkí LŕB  
 axi MvZtZ tetotQ | 1983 mij chŕl `Zvi tcvkK ɔkí BDubU ɔQj gvĀ 92uU | 1984  
 mɔtj GB msL`v`vovq 547-G | eZgɔtb t`tk cŕq 1700uU | tenk tcvkK ɔkí  
 Kvi Lvbr AvtQ | eZgɔtb `Zvi tcvkK meŕPɔq, ižcYŕ BmbKZ.cY` |  
 t`tki A`BmZtZ, weŕkl Kti RvZxq cŕx, i Bmb Avq, Kg`ms`vɔtb tcvkK ɔkí  
 weivU cŕve tɔtj tQ | mvgwRK Dbqtb `Zvi tcvkK ɔkí i cŕve`úŕ | mgvŕRi wɔvæ  
 Avtqi`wi`ª RbŕMwŕ, weŕkl Kti i ɔYKj bvi xŕMwŕi Rb` GB ɔkí Kgŕs`vɔtb

mšhvM Kti v`tq0| G vktí vbtqmRZ ktkw<sup>3</sup>i 85 kZvskB vrix| vbtqmRZ ktkG I KgPwi i mSL`v c0q 8 j 7|

evsj v`tk `Zwi tcvkvK i vktí Mto I Vvi tc0tb Kvi Ymg<sup>n</sup> n<sup>t</sup>0 (1) m`í ktkG (2) AvšR<sup>0</sup>ZK tKvUv e`e`v (3) mnR c<sup>h</sup>v<sup>3</sup> I (4) mi Kvi x vktí b<sup>n</sup>vZ I mnR FY e`e`v| evsj v`tk `m<sup>c</sup>Z tcvkvK vktí i me<sub>3</sub>tjvB e`v<sup>3</sup>gmj Kvbvaxb| evsj v`tki `Zwi tcvkvK Dbz t`kmg<sup>n</sup> i Bmb nq| Gi g<sup>t</sup>a` gmK<sup>0</sup> h<sup>3</sup>v<sup>0</sup>42 kZvsk i Bmb n<sup>t</sup>q`v<sup>t</sup>K| KvbvWv I ce<sup>0</sup>BD<sup>t</sup>i<sup>m</sup>cq BD<sup>n</sup>bq<sup>t</sup>bi (EEC) t`k<sub>3</sub>tjv D<sup>t</sup>j<sup>h</sup>vM`n<sup>v</sup>ti evsj v`tki `Zwi tcvkvK Avg`vmb Kti |

evsj v`tki `Zwi tcvkvK vktí gj-Z vZbvU kni h<sub>v</sub> XvKv, PÆM0g I b<sup>v</sup>vq<sup>b</sup>M<sup>t</sup>Ä tK<sup>v</sup> `FZ| GQ<sup>v</sup>ov Lj<sup>v</sup>bv Ges h<sup>t</sup>kv<sup>t</sup>i I tcvkvK vktí i<sup>t</sup>q<sup>0</sup>| A<sup>v</sup>aK<sup>v</sup>sk (c0q 74%) tcvkvK vktí XvKv kn<sup>t</sup>i `m<sup>c</sup>Z| cieZ<sup>0</sup>, i<sup>3</sup>pc<sup>0</sup>v<sup>0</sup> PÆM0g kni |

mvi Yx : `Zwi tcvkvK i dZmbi gva`tg evsj v`tki Avq : 1994-1997 (vgij qb gmK<sup>0</sup> Wj vi)

cY`e`	1994-95	1995-96	1996-97
`Zwi tcvkvK	1835	1949	2238
tgvU Avq	3473	3882	4427

**mvi sk**

e`vktí evsj v`tk c<sup>0</sup>v<sup>b</sup> vktí Avi `Zwi tcvkvK c<sup>0</sup>v<sup>b</sup> i BmbKZ. cY`| e`K<sup>t</sup>j i K<sup>v</sup>v<sup>g</sup>v<sup>t</sup>j i Afve ciY Ki<sup>t</sup>Z m<sup>3</sup>v/Z<sup>3</sup>v Avg`vmb Ki<sup>t</sup>Z nq| Avg`vmbKZ. K<sup>v</sup>v<sup>g</sup>v<sup>t</sup>j i Dci v<sup>f</sup>i<sup>0</sup> Kti t`tki v<sup>e</sup>v<sup>f</sup>b<sup>e</sup>A<sup>Ä</sup>tj Mto D<sup>t</sup>v<sup>t</sup>0 e`i Kvi Lv<sup>v</sup>| `Zwi tcvkvK vktí t`tki bZ<sup>b</sup> m<sup>š</sup>h<sup>v</sup>R<sup>b</sup>| m`í k<sup>g</sup> I 0<sup>t</sup>KvUv' e`e`v GB vktí Mto I Vvi c<sup>0</sup>v<sup>b</sup> Kvi Y|

**c<sup>v</sup>t<sup>v</sup>v<sup>0</sup>i gj`vqb 6.10**

**m<sup>v</sup>K D<sup>0</sup>ti i c<sup>v</sup>tk v<sup>k</sup> (l) v<sup>0</sup>y v<sup>b</sup>|**

- evsj v`tk i BmbKZ.c<sup>0</sup>v<sup>b</sup> cY` m<sup>g</sup>M<sup>0</sup> v<sup>k</sup> ?  
(K) v<sup>0</sup>sv<sup>0</sup> gv<sup>0</sup> (L) cvU (M) `Zwi tcvkvK (N) Pv
- e`vktí t<sup>e</sup>vk<sup>i</sup> f<sup>v</sup>M k<sup>g</sup>K tKv<sub>vq</sub> vbtqmRZ?  
(K) Z<sup>v</sup>Z vktí (L) ti kg eq<sup>t</sup>b (M) tgvRv vktí (N) M<sup>v</sup>tg<sup>0</sup>U<sup>t</sup>m
- e`vktí i c<sup>0</sup>v<sup>b</sup> tK<sup>v</sup> `mg<sup>n</sup> tKv<sub>vq</sub> Aew`Z?  
(K) K<sup>v</sup>gj v<sup>-</sup>t<sup>b</sup>v<sup>q</sup>L<sup>v</sup>ij (L) PÆM0g t<sup>d</sup>bx (M) XvKv-b<sup>v</sup>vq<sup>b</sup>MÄ (N) c<sup>v</sup>ev<sup>v</sup>

D<sup>0</sup>ti : 1| M 2| N 3| M

**m<sup>v</sup>v<sup>0</sup> B c<sup>0</sup>ke**

- evsj v`tki e`vktí v<sup>Ä</sup>j mg<sup>n</sup> tKv<sub>vq</sub> Aew`Z|

**iPbuj-K cka**

1. *evsj v`ki e`kfi i weiy w`b/*

## **cW 6.11**

### **evsj v`tki RbmsL`v**

#### **Df`ik`**

##### **GB cW tk`l Av`cib**

- 1 evsj v`tki RbmsL`v tKb GZ `Z tefo P`j tQ Zvi Kvi Y Rvb`teb,
- 1 RbmsL`v w`wZkxj Kiv tKb c`qRb Zv ej tZ cvi`teb,
- 1 wK Ki`j RbmsL`v w`wZkxj Kiv hvte Zv ej tZ cvi`teb|

#### **6.11.1 fvgKv**

RbmsL`vi w`K t`tk evsj v`tki `vb cW extZ Aog| 1991 mt`j i Av`gi gvix Ablyvq RbmsL`v wQj c`q 111 wuj qb hv eZ`v`b 130 wuj qb Qmofq tM`tQ| GB `T`Z` f`L`t`U ZvB RbmsL`vi NbZ; A`bK| c`Z eM`K`j wglvi Gj vKvq c`q 755 Rb emZ K`i | evsj v`tk RbmsL`v Lg `Z nvti evofQ| 1991 mt`j i MYbv Ablyvq eQ`ti c`Z GK nrvvi R`b c`q 22 Rb K`i tefo P`j tQ|

Rbeuj evsj v`k Kw. w`w`EK, w`k`f Ably`Z| ZvB GB weivU RbmsL`v Av`g`i Av`\_` mvgwRK c`ZwU t`T`f` Pvc m`o Ki`tQ| GB weivU RbmsL`v c`KwZK cvi`tekl `wZ K`i Z`tQ| c`qRb ZvB evsj v`tki RbmsL`v w`wZkxj Kiv| GB cv`v RbmsL`v w`wZkxj Kivi c`qRbxqZv I tmB Df`ik` c`t`c m`f`U Av`j vPbv Kiv nj |

#### **6.11.2 evsj v`tk RbmsL`vi ew` nvi**

GKwU t`tk GK eQ`ti KZRb Rb`M`Y Ges KZRb gZ`ei Y Kij Zvi Dci w`f`P K`i tmB t`tki RbmsL`vi ew`nvi | evsj v`tk GLb t`tk c`q GKk eQi Av`M Rb`hvi I gZ`nvi `t`vB A`bK teik wQj | ZvB ew` nvi teik wQj bv| wK`szAv`bK w`P`Krmvi m`zav, fvtjv thv`thvM e`e`v, Lv` mieiv`ni m`ze`e`v BZ`w`i Kvi`Y gZ`nvi Kg`Z `v`K wK`sztmB Ab`v`Z Rb`hvi K`g bv| dtj RbmsL`v tefoB P`j tQ| 1950 mvj t`tk c`ZeQ`ti c`Znrv`ti 20 Rb evofZ| eZ`v`b GB nvi A`bK K`g G`mtQ| 1991 mt`j RbmsL`v wQj c`q 111 wuj qb| ew` nvi wQj c`Z nrv`ti 21.7 A`ev 2.17%| RbmsL`vi GB ew` nvi eZ`v`b wK`Qw K`g`tQ| 1996 mt`j i mi Kvi`x wnmvte t`Lv hvq th c`Z nrv`ti Rb`hvi 25.6 Avi gZ`nvi 8.1| m`z`ivs ew`nvi c`Znrv`ti 17.5 A`ev 1.75%|

#### **6.11.3 RbmsL`v ew`i Kvi Ymgn`**

evsj v`tki RbmsL`v ew` c`vb Kvi Y n`Q D`P Rb`hvi Ges Av`Z `Z w`w`v`g` gZ`nvi | RbmsL`vi GB ew`i nvi ZvB GLbI A`bK teik| GB ew`nvi K`g`tQ G`K w`wZkxj ch`q Av`tZ tM`j ZvB c`t`g Rv`v c`qRb wK Kvi`Y Av`g`i t`tk Rb`hvi ew` cvq| evsj v`tk RbmsL`v `Z ew` tct`tQ A`bK`\_`tjv Kvi`Y h`v`

1. w`w`Mo weevn eqm (w`tkl K`i brix` i t`T`f`)
2. weevnZ RbmsL`vi D`P nvi







**ciW 6.12**

**eijsj v` t`k RbmsL`v`K Rbm`u` t` cwiYZ Kivi c`qurBvqZv I Dciq**

**D`i`k`**

**GB ciV AvciB**

- 1 eijsj v` t`ki RbmsL`v`K t`Kb Rbm`u` t` cwiYZ Ki t`Z n`te t`mB m`a`U Rvb`teb,
- 1 i`K Dciq RbmsL`v` Rbm`u` t` cwiYZ n`t`Z cv`ti Zv ej t`Z cv`teb|

**6.12.1 c`qurBvqZv**

th RbmsL`v Avk`u`q`Z, A` q, ciy`nxbZv I tivM e`vma`tZ Avm`v`š`tm RbmsL`v GKiu t` t`ki tevSv n`tq i`aymgm`vi Rb` t`q| ZvB th t`Kv`bv t` t`ki A`\_R`omZK Dbq`tb Aek`B RbmsL`v`K Rbm`u` t` cwiYZ Ki t`Z nq| GKiu t` t`k h`w` h`\_o` cwi`gr`f`Y c`k`u`Z`K m`a`u` \_v` t`K Av`i t`m t` t`ki RbmsL`v h`w` nq AÁ, A` q, Avk`u`q`Z Ges` q` \_t`i`i AwaKvix Z`te t`mB m`a`u` t`Kv`bvB Kiv`R Av`tm bv| t` t`ki Dbq`tb t`m m`a`u` Kiv`R j`vMvb hvq bv eis Ab` t` t`ki n`v`Z Z`tj` w` t`Z nq| Ab` w` t`K GB RbmsL`vi fi`Y t`cvl`f`Y mi`Kvi` t`K Ab` t` k t`\_t`K avi K`ti n`tj` I e`q Ki t`Z nq| GB Ae`vq t`Kvb t` k ev Rv`vZ Db`vZ Ki t`Z cv`ti bv| ZvB `v`evb, c`k`q`Yc`u`B, `q` Rbkiw`<sup>3</sup> th t`Kv`bv t` t`ki m`a`u` |

**6.12.2 Dciq**

RbmsL`v`K cwi`Kw`i`Z f`v`te Rbm`u` t` cwiYZ Ki t`Z n`tj` th me c` t`q`i`ci c`qurBv Zv v`b`P m`st`q`i`c Av`tj` v`Pbv Kiv nj |

**1. tg`š`ij K m`š`h`u`ll m`p`av` e`w` K`ti R`xet`bi g`vb Dbq`b Kiv**

g`vb`š`ij i tg`š`ij K P`v`n`v` Lv`", e`i` evm`v`b, i`k`q`v` I v`Pv`Krmv GB P`v`n`v` v`b`v`D`Z Ki t`Z cv`i`tj` R`xet`bi g`vb Dbq`b nq| R`xet`bi g`vb Dbq`b Kiv t`M`tj` RbmsL`v`K Rbm`u` t` cwiYZ Kiv hvq|

**2. i`k`q`vi v`e`v`i, Av`t`bi c`h`vi**

i`k`q`vi c`h`vi NU`tj, Kg`q`q`Zv I c`h`v`<sup>3</sup>MZ `q`Zv AR`B Ki t`j Drcv`b e`w` cv`te| t` t`ki m`a`u` t`K v`e`v`f`b`e`f`v`te Kiv`R j`vMvb hv`te| `q` RbmsL`v t` t`k I v`e` t`k mgvb`f`v`te mgv`Z| i`k`u`q`Z RbmsL`v thgb cwi`evi cwi`K`i`bv m`v`K`f`v`te e`envi K`ti RbmsL`v e`w` t`iva Ki t`Z cv`ti, v`K` GKB`f`v`te Kul` t`q`i` t`i` f`v`tj` v` dj`b K`ivi c`x`v`Z`mg`v` Avq`E Ki t`Z cv`ti| i`k`u`q`Z RbmsL`v v`e` t`k I K`ti i`k`u`q`Z v`ix m`t`P`Z`b| cwi`te`t`ki i`z`j` tev`S` v`eavq Zv`i` cwi`te`k I cwi`ev`t`i`i h`Z`e`v`b`t`Z m`n`t`R Ab`z`u`YZ Kiv hvq| m`v`avi`YZ i`k`q`vi m`v`t`\_ Av`v`\_R` Avq R`v`o`Z| eijsj v` t`k A`t`a`K`i t`e`v`k RbmsL`v `v`i`q` `v`i`<sup>a</sup>R`b`v`M`v`o`i Av`v`\_R` Av`t`qi Db`vZ n`tj` m`v`g`v`M`K`f`v`te Lv`", ciy` I `v`v`M`Z Db`vZ n`te| i`k`u`q`Z Rb`MYB cv`ti v`b`v`Ri K`\_v` ej t`Z, b`v`h` `v`v` Av`v`q K`ti v`b`t`Z|

**3. v`Pv`Krmv t`mev v`b`v`D`Z Kiv**







(ii) **tijc\_** : evsjv`tk`~~Ø~~ ai#Yi tij c\_ AvtQ h\_v (1) eW#MR I (2) wglvi#MR| GK wglvi Pl or tijc\_#K etj wglvi#MR Avi eW#MR tijc\_#i Pl or 1.68 wglvi | evsjv`tk` tgvU 4,364 wKtj wglvi `xN`tij c\_#i gvtS 1,528 wKtj wglvi eW#MR Ges 2,836 wKtj wglvi tijc\_ wglvi #MR| hglv b`x evsjv`tki tijc\_#K`~~Ø~~fiv#M fivM Kti#Q| cwiog cvtoB eW#MR tijc\_ AvtQ| hglv b`xi ce`civto tijc\_ m#uY` wglvi #MR| Zte cwiog fiv#M eW #M#Ri cvkvcv#k wglvi #MR tijc\_#I itq#Q| Ljybv I ivRkvn# wefiv#Mi tijc\_ eW#MR| eW#MR tijc\_ Avtiv AvtQ dmi`cj I ivRevox trjvi wKQyAsk|

t`tk tij t÷k#bi msL`v 489| Gi gta` AvLvDov, jvKmv# `fie evRvi, gqgbwmsn, Ckji`x, creZxcj, mvs#nvi, KvDnbqv I XvKv D#jL#thvM` Rskb| evsjv`tki moK cwi#n#bi thgb tdcix civcvi Ki#Z nq, wK tZgb fiv#e tijc\_#Pj vPj tij I tq tdmv P#jyAvtQ| wZ`lgly NvU I evnv j#ver#`i gvtS GKwU Ges wmvRMA I RMBw\_ M#Ai gta` GKwU tdmv tijc\_#i hv#x#`i b`x civvcv#i mrv#h` Kti | 1998 mv#ji Av#M ch#l hglv b`x t`tki ce`I cwiogfiv#M#K c`q wew`QbreKti ti#LwQj | wK#z1998 mv#j t\_#K hglv b`xi Dci 4.87 wKtj wglvi `xN`ohglv tmZ#z`0 gva`tg mivmvi tij I moKc\_#\_ thvM#thvM `w#Z n#q#Q| th D#ie# Av#M meiKg Db#b KgRvU t\_#K wQj ew#Z, hglv b`xi Dci GB tmZ#z#b#Yi ci Ae`vi A#bK cwi#eZ` n#q#Q| mn#R Ges `Z hv#x/gvj vgvj cwi#enY QrovI GB tmZ#z Dci w`tq c`KwZK M`v#mi cvBcj vBb D#ie#` t`k`Q t#M#j GB AA#j i Db#z mvab `Z n#e|

**6.13.5 wgvb c\_** : wgvb/AvKvkc\_#\_ met#P#q `Z hv#x I cY#mv#M` cwi#enb Kiv hvq| wgvb c\_ hv# I met#P#q e`q euj Zey Av#bK h#M wgv#bi , i#Z; A#bK| Af`šli#Y I Av#R#ZK wgvb e`e`v h\_v#\_#tg t`tki w#Z#i wew#b#et#Rjvi mv#\_ Ges w#tk#i wew#b#et`tki gvtS thvM#thvM i`qv Kti P#j #Q|

t`tki Af`š#i XvKv, P#M#g I w#t#j #Ui mv#\_, 7wU kni h\_v h#kvi, Ckji`x, `mq`cj, K· evRvi, VvK#MvI, ivRkvn# I K#j#vi AvKvkc\_#\_ thvM#thvM AvtQ| c#Zw`b AvKvkc\_#\_ GBme kn#i hvZvqvZ Kiv hvq| GwUB evsjv`tki Af`šli#Y wgvb m#w#f#| XvKv, P#M#g I w#t#j U Av#R#ZK wgvb e`i t\_#K Av#R#ZK i#jU G#kqv, BD#ivc, Av#dKv I D#i Av#g#i Kvi 26wU `v#b AvKvkc\_#\_ hvZvqvZ Kiv hvq| Aciv`#K 18wU ms`vi wgvb w#bqvZ fiv#e evsjv`tk w#tk#i wew#b#et`k t\_#K hv#x I gvj vgvj enb Kti Av#b|

mi Kvi cwi#P#vj Z `evsjv`k wgvb` AvKvkc\_#\_ cwi#enb e`e`v w#q#š# Kti | Zte eZ`v#b temi Kvi# D#`v#M i`agv# Af`šli#Y i#jU Avtiv `w# ms`vi (G`v#iv tel#j Gqvij vBY I wRGw#R) wgvb Pj vPj Kti |

**mvisk**

t`tki w#Zi A\_#ev GK t`k t\_#K Ab` t`tk gvj vgvj , hv#x Pj vPj gva`g#K hvZvqvZ e`e`v etj | b`xc\_ evsjv`tki c#v#b hvZvqv#Zi gva`g| Avi AvtQ `j c\_#\_ moK I tijc\_ , wgvb ev AvKvkc\_#\_ Ges Rj c\_#\_ mg#e`\_ |

**ciVvEi gj`vqb 6.13**

**mVVK DĒi i ciK vK (l) vPý w`b|**

1. evsj v`tki Af`šti hvZvqutZi tKvb gva`g tevk Rbucŕ?  
(K) AvKvk-c\_ (L) moK-c\_ (M) b`x-c\_ (N) tij-c\_
2. evsj v`tki mvavi YZ tKvb AĀtj i b`xmgv tbšPj vPtj i tevk DcthvMx?  
(K) DĒi-ce<sup>©</sup> (L) DĒi-cuŕg (M) `vŕY-cuŕg (N) `vŕY-ce<sup>©</sup>
3. PĀMŕg l gsjv tKb ,ižij vF Kti tQ?  
(K) tij Rskb (L) mgýe`i (M) b`xe`i (N) tdwi NvU

**DĒi : 1| L 2| M 3| L**

**msvŕB cĕe**

1. evsj v`tki tij ct\_i eYŕv w`b|

**iPbvj-K cĕe**

1. evsj v`tki thvMvthvM e`e`vq `j ct\_i vveiY w`b|
2. evsj v`tki Rj ct\_i vveiY|
3. evsj v`tki vevvbc\_t\_i vveiY|

**cW 6.14**

**ersj v`tki emYR` : Avg`vb I iBvb**

**Df`k`**

**GB cW tk`I Av`vb**

- 1 ersj v`tki Avg`vb I iBvb `e` wK Zv ej tZ cvi`teb,
- 1 ersj v`k tKv`bv tKv`bv t`tki m`\_ emYR` m`uK`Mto Ztj`tQ, Zv ej tZ cvi`teb,
- 1 Avg`vb, iBvb emYR` m`u`K`c`u`gK avi Yv cv`i b|

**6.14.1 fvgKv :** cY` `fe`i Av`vb c`vb`tkB emYR` etj | Pvn`v I Pvn`v c`t`Yi  
 ¶lgZvi Dci wbfP Kti t`tki wFZi GK AAj t`\_tK Ab` AAj Ges t`tki evBti,  
 GK t`tki m`\_ Avi GK t`tki c`Y`i Av`vb-c`vbB emYR`| t`tki wFZi w`f`b`e  
 AAj i g`a` hLb cY` µq-µµq, Av`vb-c`vb nq thgb XvKvq Av`m w`m`j`t`U`i cv`\_i  
 A`\_er w`b`r`c`j`i Pij, ZLb Zv`K etj Af`S`l`xY emYR`| hLb GK t`tki m`\_ Ab`  
 t`tki cY` µq-µµq, Av`vb-c`vb nq thgb, ersj v`tki `Zwi tcvkV Avi h`y`i v`to`f  
 Lv` mvgM` ZLb Zv`K Av`S`R`ZK emYR` etj |  
 ersj v`k Rbeuj I w`k`f` tZgb Dbz` bq| ZvB c`ZeQi t`tki Pvn`v w`g`v`b`v`i Rb`  
 w`e`k`f` e`u` t`k` t`\_tK e`u` ai`t`Yi cY`mvgM` Av`b`Z nq| GUvB Avg`vb emYR`|  
 Aciw`tK hLb ersj v`k Ab` tKv`bv t`\_tK cY` mvgM` cv`v`q ZLb Zv ersj v`tki  
 iBvb emYR`| Avg`vb I iBvb w`b`t`qB Av`S`R`ZK emYR`|

**6.14.2 ersj v`tki Avg`vb I iBvb emYR`**

ersj v`k Rbeuj, w`k`f` Abz`, Lv` NvUwZ Ges `Zwi c`Y` w`ek`ij GK evRvi  
 GjvKv| ZvB `f`w`e`K f`v`e`B c`ZeQi iBvb emYR` t`\_tK Avg`vb emYR` t`e`k` nq|  
 w`k`i Lv` /, or`y, llycT, w`k`f`i K`v`g`ij, m`e`w`K`Q`B ersj v`k c`u`\_exi w`f`b`e`f`k`  
 t`\_tK Avg`vb Kti | Aciw`tK GLb t`\_tK 30-40 eQi Av`M ersj v`k th me cY`  
 mvgM` iBvb KiZ thgb cvU, Pvgov, P`v`BZ`w` Zv c`q` GKB Ae`v`q` i`t`q` tM`t`Q`| Aek`  
 ersj v`tki iBvb emYR` `Zwi tcvkV GKwU , i`y`c`Y`m`st`h`v`R`b|

**6.14.3 ersj v`tki Avg`vb emYR`**

ersj v`tki Avg`vb emYR` iBvb emYR`i P`v`B`Z` A`b`K` t`e`k`| A`\_`f` th cwi`gvY  
 `e`f` w`k`K` g`y` cY` iBvb Kti Avq nq, Zvi t`p`t`q` t`e`k` cwi`gvY `e`f` w`k`K` g`y` e`q` Ki`t`Z  
 nq cY`mvgM` Avg`vb Ki`t`Z| w`b`t`P` m`st`¶`t`c` ersj v`tki Avg`vb `fe`i w`e`i`Y` t`\_l`q`  
 nj |  
 Lv` `e` : c`Z` eQi Lv` `fe`i NvUwZ c`t`Y` h`y`i v`o`f, fviZ, KvbWv, gvj`t`q`k`q`v, Pxb  
 BZ`w` t`k` t`\_tK Av`m Pij, Mg, t`f`i`R` t`Zj, w`P`w` w`k`i Lv` /, or`y, t`Zj`exR, `Zwi  
 L`v`e`v`i` I` cv`b`q`|

**ukíRvZ`è`wí** : weifbæukíi hšcwiZ, Kj Kâv, ubgŕY KvŕR e`eüz imtgU, tj vnv, B`úvZ, `e`ÿZK mi Ävg, tctUij, wMŕRj, llycĪ, imvqubK `è`wí, hubevnb, hubevntbi hšysk BZ`wí | bivr aiŕYi ukíRvZ cY` Avg`vnb Kŕi evsjvŕ`k |

**Kŕigvj** : evsjvŕ`k `Zwi tcvkivK GKwU , iŕcYŕi Bmb cY` | Zte GB tcvkivK ukíi i hveZiq Kŕigvj Avg`vnb KiŕZ nq | tcvkivK ukíi i tgvkb t\_ŕK i iyKŕi KvcO, mŕv tevZvg meB Avg`vnb `è` | wK GKB fŕte KvMR ukíi i Rb` cŕqvRbxq gŪ, cwi÷K KviLvri imvqubK `è`, imivgK KviLvri Pxbv gvU meB evsjvŕ`k Avg`vnb Kŕi \_vŕK |

GQrov evsjvŕ`k Avg`vnb Kŕi Dbz exR, KŕUvirk JIa, mvi, iveviRvZ `è`, tiwvI, tUij wfkŕbi gŕZv `e`ÿZK hšcwiZ, PŕgovRvZ `è`, is, tMvj v eriy BZ`wí | evsjvŕ`k weifbæcY`mvgMŕ Avg`vnb Kŕi cävZ fviZ, nsKs, Pxb, Rvcvb, w½vcj, dvY, Rvgŕx, cwiK`lb, \_vBj`vŪ, tmŕ` Avie, hŕivR` cŕwZ. t`k t\_ŕK |

#### 6.14.4 iBmb ewŕR`

evsjvŕ`ki iBmb ewŕR` cY`mvgMŕ LyB mwgZ | DŕjLthvM` iBmb mvgMŕi gŕa` itqŕQ Kŕv gvj l cvURvZ `è`, wngwqZ gvQ, wPsw, `Zwi tcvkivK, Kŕv Pŕgov l PŕgovRvZ `è`, Pv, n`ukí, l gkjv |

**`Zwi tcvkivK** : eZŕvŕb meŕPŕq , iŕcYŕi Bmb `è` `Zwi tcvkivK | Gŕ`k m`í kŕŕK KvŕR jwMŕq, Avg`vnbKZ. Kŕigvj i Dci wŕiE Kŕi Mŕo lŕvŕQ t`uk l weŕ`uk tcvkivK `Zwi i KviLvri | `Zwi tcvkivK iBmb nq cävZ hŕivŕo` 1996-97 mŕj evsjvŕ`k 9556 tKwU UvKvi `Zwi tcvkivK iBmb Kŕi | tgvU iBmb Avŕqi wnsŕvM (cŕq 58%) Avq nq `Zwi tcvkivK t\_ŕK |

**cvU l cvURvZ `è`** : evsjvŕ`ki tgvU iBmb Avŕqi kZKiv 27 fivM Avŕm cvU l cvURvZ `è` t\_ŕK | evsjvŕ`ki cvUKŕj Drcw`Z PU, \_ŕj, e`v Mvuj Pv BZ`wí weŕ`k iBmb Kiv nq | cvU iBmb nq fviŕZ | cvU Ges cvURvZ `è` AŕbK Kvj t\_ŕKB Avŕv`i iBmb `ŕe`i Zvuj Kv`Lj l `eŕ`ukK gŕŕ ARŕ Kŕi AvŕŕQ | cvUŕK ZvB ejv nq tmvuj x Atk | evsjvŕ`k cvU l cvURvZ `è` iBmb Kŕi fviZ, Rvcvb, dvY, BZvj x, Pxb cŕwZ. t`k |

**wngwqZ Lv`/gvQ** : `ŕxbZvi ciB wngwqZ Lv` weŕk l Kŕi wPsox gvQ iBmbthvM` cY` wŕŕmŕe , iŕj cvq | e`vŕOi cvŕŕ 1991-92 mij chŕŕ iBmb nŕqŕQ | GQrov UvUKv kvKmeŕRi l weŕ`k, weŕk l Kŕi ga`cŕP` Pwn`v itqŕQ |

**Pŕgov l PŕgovRvZ `è`** : hŕivó, hŕivR`, Kivwv, dvY, BZvj x, tej wRqv l Rvcvŕb evsjvŕ`k Pŕgov l PŕgovRvZ `è` iBmb Kŕi | Mi y gŕn l QvMŕj i Pŕgov Ges PŕgovRvZ `è` thgb Rŕv, e`vM, teè, Pŕgovi R`vŕKU BZ`wí iBmb Kŕi `eŕ`ukK gŕŕ AvRZ nq |

**Pv** : evsjvŕ`k th cwi gvY Pv Drcw`Z nq, Zvi tenki fivM e`envi nq Af`ŕŕixY Pwn`v tgvŕZ | ZvB weŕ`k iBmb Kivi gŕZv tZgb gRŕ \_vŕK bv | Zvi Dci Ab`vb` Pv Drcv`bKvix t`k thgb kŕj sŕv, fviZ, tKubqv cŕwZ. t`ki Pŕŕqi , YMZ gvB

evsj vř`tki Drcv`Z P v t\_řK řvřj v| dtj evsj vř`tki P v Gi P v n`v vek'evRřři Kg| eZřvřb evsj vř`k t\_řK P v i B v b n q cřv b Z hřřivó, i v k q v Ges B i vřřK|

**Ab`vb`** : evsj vř`tki Ab`vb` i B v b `e` n j n`řkřřvZ `e`, g k j v, m v i b`v c`v j b, d vřřb řř t Z j, Mřřm v g Mřř, Z v g v K, c v b, B Z`v` | cřq 35 v U i gřřZ v ř`řk evsj vř`k c Y`m v g Mřř i B v b K řř | hřřivó, R v g řř, hřřiv R, d v ř, ř e j ř R q v g B Z v j x, t b`v i j`v Ū, R v c v b, n s K s, K v b v W v, evsj vř`tki c řř`i c řř v b řř Z v |

**6.14.5 i B v b e řř i D c v q**

A v R řř K i v e k řř v řř i řř U řř K \_v K řř Z řř M řř j`i a y D r c v`b e řř K i řř B P j ř e b v | c řř q v R b D r c v`b e`q n v m, c řř`i g v b D b q b Ges c řř`i e`v c K c řř v i | m g g g řř Z v c Y`m i e i v n I A v řř \_i řř c řř Z v B řř v M řř řř v M I c v i e n Y e`e`v i D b q b A v řř c řř q v R b | A v g v řř`i A v g`v b ř e k, i B v b K g | A v g`v b i B v b i g řř` Z v B řř v i m v g`\_v K řř Q b v | e řř`ř k K e m Y řř`i c řř Z K j A e`v`ř K i řř Z A v g v řř`i i B v b e řř K i v i m e řř Z K c řř P ó v`i K v i |

**m v i s k**

c Y`ř`ř e`i A v`v b c řř v b řř K e m Y R` e řř | A řř řř řř Y I A v řř R řř Z K, `y řř ř e B c Y`m v g M řř A v`v b-c řř v b, řř q-ř e řř q n q | A v g`v b I i B v b v b řř q A v řř R řř Z K e m Y R` | evsj vř`tki i B v b i řř řř q A v g`v b ř e k | i B v b K Z.c Y`m v g M řř i g řř` Z v i řř c v k v K k x l`ř b`ř j K řř A v řř Q | c řř q 35 U v ř`ř k i m v ř` evsj vř`tki e m Y R` m řř ř K` A v řř Q |

**c řř v řř e i g j`v q b 6.14**

**m v K D ě řř i c řř k řř K (l) řř ř ř b |**

1. evsj vř`tki i B v b `e` řř K řř K ?  
 (K) c v U, P v g o v, řř v n v (L) c v U, K q j v, c řř K v Z K M`v m  
 (M) c v U, P v, řř v i řř c v k v K, (N) řř v i řř c v k v K, c v U, řř b R řř Z j
2. evsj vř`k x c Y`m v g M řř i c řř v b řř Z v řř K ?  
 (K) g v k řř h řř i v ó (L) řř v i Z (M) c v k řř b (N) g v q v b g v i

**D ě i** : 1 | M 2 | K

**m s řř ř B c řř e**

1. evsj vř`tki řř v i řř c v k v K i B v b i ř e e i Y řř b |

**i P b v j - K c řř e**

1. evsj vř`tki A v g`v b i B v b e m Y řř`i ř e e i Y řř b |

**cW 6.15**

**evsj v`tki gubvP`T AsKb**

**D`i`k`**

**GB cW tk`l Avcb**

- 1 gubvP`T Kv`K e`j Rvb`Z cvi`teb,
- 1 gubvP`T AsKb c`xwZ Rvb`Z cvi`teb,
- 1 wewfbr`v`tbi gubvP`T AsKb m`u`tk`Rvb`Z cvi`teb|

gubvP`T AsKb c`xwZ f`Mvj i GKw Ask| gubvP`T f`Mvj cVb-cv`tbi Awet`Q` Ask| GRb` f`Mvj gubvP`T AsKb`K , i`z;c`lvb Kiv nq|

**ms`Av :** KvM`R AswKZ c`w`ex ev Zvi th tKv`bv Astki tQv AvKv`ii c`Zi`c`K gubvP`T e`j | thgb evsj v`tki gubvP`T |

**6.15.1 AsKb c`xwZ**

evsj v`k 20° 34' D`Ei A`q`tiLv t`\_`K 26° 38' D`Ei A`q`tiLv Ges 88° 01' ce`°`N`g`v`tiLv t`\_`K 92° 41' ce`°`N`g`v`tiLvi g`ta` Aew`Z| Zintj aiv hvK, Avgv`i t`k tgvUv`tgwU 20 D`Ei A`q`tiLv t`\_`K 27 D`Ei A`q`tiLv Ges 88 ce`°`N`g`v`tiLv t`\_`K 93 ce`°`N`g`v`tiLv ch`S`ie`Z| GLb 20-27 D`Ei A`q`tiLvi Rb` 7wU I 88-93 ce`°`N`g`v`tiLvi Rb` 5wU QK G`K evsj v`tki gubvP`T AvKv hvte|

- 1. D`Ei-`w`q`Y 7wU Ges ce`°`c`w`d`tg 5wU eM`q`T` wntmte tgvU 35wU (7∞5) eM`q`T` cvkvcwK AvK`Z nte| ce`°`c`w`d`tg 5 Bw`A tiLv tU`b 5f`v`M f`M Kily| D`Ei-`w`q`Y 7 Bw`A tiLv tU`b 7 f`M Kily Avcbvi QK e`M`P` c`Z`Kw Ab`v`gK ev` 1 Bw`A I Dj` ∞`1 Bw`A wntmte tgvU 35wU QK AvKv ntj v
- 2. KvM`Ri Dci Avcbvi AvKv eM`q`T`vi Wvb w`tki tiLvi w`b`P t`\_`K I c`ti (`w`q`Y t`\_`K D`E`i) h`v`m`tg 20 D`Ei 21, 22, 23, 24, 25, 26, 27 D`Ei wj Lly|
- 3. Gevi w`b`Pi tiLvi cv`k evg t`\_`K Wvb (c`w`d`g t`\_`K ce`°`f`\_`K) h`v`m`tg 88 ce`°` 89, 90, 91, 92, 93 ce`°`j Lly|
- 4. Gevi evsj v`tki th tKv`bv Av`k`ev m`w`K gubvP`T f`v`j`v`f`v`te j`q` Kily| t`Lvb evsj v`tki gubvP`T`i m`x`v`tiLv tKv`bv A`q`tiLv I `N`g`v`tiLvi tKvb cvk w`tg KZ `i` w`K`f`v`te G`K te`K tM`Q| GKB f`v`te Avcbvi QK AvKv KvM`R evsj v`tki m`x`v`tiLv AvK`Z`\_`v`K`b|
- 5. GLv`b t`I qv gubvP`T t`\_`L AvKvi Ab`x`j`b Ki`j , K`q`Kw`t`bi g`ta`B evsj v`tki m`x`v`tiLvi gubvP`T bv t`\_`L AvK`Z` cvi`teb|
- 6. gubvP`T AvKv tk`l, D`Ei w`tk w`K w`b`Rbv Ki`teb| gubvP`T` hv t`w`L`q`Q`b (civno, b`x`e`i BZ`w`) Zv m`PK t`L`v`Z nte| gubvP`T`i w`el`q`e`Z` Dci w`b`f`P K`ti gubvP`T` bvg w`t`Z nte| gubvP`T`i Pvi w`tk hv Ae`vb Ki`Q Zvi bvg w`t`Z nte|

gfb ivLteb Qtki eM<sup>h</sup>Z eo Kiteb, gvbiP<sup>T</sup> ZZ eo nte| QK eM<sup>P</sup> evui gvc  
tQvU Ki tj Arcbvi AvKv gv<sup>T</sup>P<sup>T</sup>U<sup>I</sup> tQvU nte| mZivs Arcbvi KvM<sup>T</sup>Ri Abgv<sup>T</sup>Z  
Arcvb Arcbvi QK AvKb|

evsj v<sup>t</sup>tki m<sup>x</sup>gv<sup>t</sup>iLv AvK<sup>t</sup>Z cvi<sup>t</sup>j, gvbiP<sup>T</sup> bMi, e<sup>h</sup>i, cinvox GjvKv, b<sup>x</sup>,  
ebv<sup>A</sup>j, w<sup>e</sup>fbæ<sup>ik</sup>i c<sup>h</sup>Z<sup>o</sup>rb BZ<sup>v</sup>i Ae<sup>v</sup>b w<sup>P</sup>w<sup>y</sup>Z Ki<sup>t</sup>Z tP<sup>o</sup>v Kiteb|  
Abjxj tbi gva<sup>t</sup>g m<sup>w</sup>K Ae<sup>v</sup>b m<sup>x</sup>t<sup>U</sup> cwi<sup>o</sup>vi avi Yv n<sup>t</sup>q hvte|

f̣tMvj (iPbvqj-K)  
**weIq tKwW : SSC-2604**  
 mgq : 2 NĒv  
 tgvU bʔ : 50

[ `ðe" : Wvb cvtk;P msL`v cĦkĕ cYgvb ÁvcK| cĦqvRbxq tŋtĦ wPĦ AsKb  
 Avek"K|]

bʔ

- 1/ th tKvʔbv GKwU cĦkĕ DĒi w`b :-
  - K) cĦ\_exi AvKvi wKifc? cĦ\_exi tMvj KtZi cĦwU cĦvY wj Lj| 3+7=10
  - L) AvvYK MwZ KvʔK etj? AvvYK MwZi dtj wKfite w`b-ivZ nq wPĦmn e`vL`v Kij| 3+7=10
  - M) wKfite w`b-iwĦi nmev; NtU wPĦmn eYĦv Kij| 10
  
- 2/ th tKvʔbv GKwU cĦkĕ DĒi w`b :-
  - K) wkv v KvʔK etj? wewfbacKvi wkv vi weeiY w`b| 3+7=10
  - L) AvtMqwmvi KvʔK etj? wewfbacKvi AvtMqwmvi i weeiY w`b| 3+7=10
  - M) ceZ KvʔK etj? ceZi tkYwefvM t`Lvb| 3+7=10
  
- 3/ th tKvʔbv GKwU cĦkĕ DĒi w`b:-
  - K) D`PZvi wfiĒZ evqyŬtj i wewfbac`li , tj vi weeiY w`b| 10
  - L) AvenvI qv wK? AvenvI qv I Rj evqy cv`R" wj Lj| 3+7=10
  - M) tgšmgy evqyKvʔK etj? wewfbacKvi tgšmgy evqy eYĦv w`b| 3+7=10
  
- 4/ th tKvʔbv GKwU cĦkĕ DĒi w`b :-
  - K) f;cĦwZ. Abyvfi BDtvc gnv`kʔK Kq fvtM fvm Kiv hvq Ges wK wK?  
 th tKvʔbv `wU fvtMi eYĦv w`b| 4+6=10
  - L) gvj tqwkqvi Rj evqy weeiY wj Lj| 10
  - M) ga`cĦP`i th tKvʔbv cĦwU t`tki bvg ivRaibxi bvgmn wj Lj| 10
  
- 5/ th tKvʔbv GKwU cĦkĕ DĒi w`b:-
  - K) evsj vt`tki f;cĦwZi weeiY w`b| 10
  - L) evsj vt`tk cĦkĕZK M`vfi e`envi eYĦv Kij| 10
  - M) evsj vt`tki KvMRwkt`i weeiY w`b| 10

f#Mij (be<sup>3</sup>K)  
**neIq tKw : SSC-2604**

mgq : 50 ugubU

cYgvb : 50

[ `be : be<sup>3</sup>K Astki cWZU cOkie DEi LvZvq wj LtZ nte | Avj v`v OMR kxU  
 t`l qv nte bv | cOZ`K cOkie gvb 1 | ]

baf

**r    iB`vb ciY Kily:-**

- 1) cW\_ex t`tk m#hP `i-Z; cOq ..... uK.uq. |
- 2) mtePP AqIvstki gvb ..... W/WW?
- 3) ..... AA#j AvryK Muzi tel Lg Kg |
- 4) AkgU#j i Dcti i KwB Avei Y#K ..... etj |
- 5) ..... ukj vq Riev`\$ \_vtK bv |
- 6) evqgU#j i c#vb Dcv`vb ..... |
- 7) gvqvgv#i i ivRavbxi bvg ..... |
- 8) ga`cO#P` kZKiv ..... fVW Awaevmx gvj gvb |
- 9) evsj vt`tki `YZS# bvg ..... |
- 10) evsj vt`tk kZKiv ..... Gj vKv ebfvg |

**r    GK K\_vq DEi w b :-**

- 11) tm#i RM#Zi epEg M#ni bvg uK?
- 12) AqIvsk cwi gvc Kivi ht#j bvg uK?
- 13) evsj vt`tki cOvY mgq M#bP mgq AtcKqIv KZ NEv tenk?
- 14) tenki fVW Lub#Ri AvKvi uKifc?
- 15) fvgK#u#i DrcuE` vb#K uK etj ?
- 16) f`c#oi vbKueZ#evqgU#j i tKvb `li itqtQ?
- 17) gvj tqvkqvg tKvb aitbi epocvZ nq?
- 18) `vqIY tKvvi qv tKvb&gnv#`tk Aew`Z?
- 19) evsj vt`tk cWb we`y#tK`^tKv\_vq Aew`Z?
- 20) evsj vt`tki i BvbKZ.c#vb cY` tKvU?

**r    mZ`-vg`v vbYq Kily:-**

- 21) cW\_ex m#hP GKU M# |

- 22) i'μ cū\_exi wBKUZg Mh|
- 23) cvj wj K wkj vq Rxevkꝑ\_vtK bv|
- 24) tRvqvi-fwvi gj- KviY mthp AvKIꝑ|
- 25) cū\_exi mtepp gj fūgi bvg ōcvxi' gj fūg|
- 26) mthw cōj KvV iBvnb Kti bv|
- 27) gvj tqwqvi cāvb LubR mꝑú` tj vnv|
- 28) `wŋY Gwqvi ewil R MoewócvZ cōq 127 tm. wg. |
- 29) evsj vt`tki cāvb LubR mꝑú` ōwPbvgwUó|
- 30) wPsox evsj vt`tki ōmv`vtmivr'|

**r mWK DĒi wj Ly:-**

- 31) AvwYK MwZ ejtZ eSvq----w`b iwī msMNub/FZz cwieZō/MwZ cwieZō|
- 32) metPtq eow`tbi cwigvY ---- 12/14/16/17 NĒv|
- 33) MōbvBU tKvb wkv ----- AvtMq/cvj wj K/ifcvihi Z|
- 34) KKōμwšl tiLv Aew`Z ----- 23.50 DĒi/23.5  
`wŋY/tgi tZ/wbi ŋix AĀtj |
- 35) `wvqꝑ b`xi `N°----- 227 wK.wg./2777 wK.wg./772 wK.wg. |
- 36) `wŋY tKwv qvq teKvi tZji nvi ----- 1.9%/3.7%/2.8/4.6%|
- 37) tgvmj tKvb t`tki tZj Lub ----- BivK/Bivb/KtqZ/KvZvi |
- 38) evsj vt`tk tKv\_vq mvi Kvi Livv AvtQ ----- tdĀMĀ/wmwx iMĀ/XvKv|
- 39) evsj vt`tki wPwbKj ,tjv Aew`Z ----- DĒi/`wŋY/DĒi I cwōg  
AĀtj |
- 40) evsj vt`tk Kgŋg RbmsL`v kZKiv ----- 10/50/70/80 fivM|

**r wj KiY (evg cvtkꝑ evtK`i mvt\_ Wwb cvtkꝑ ktāi wj Kti wj Ly) :-**

- 41) M'v w i Ask 22 wv'tmꝑ†
- 42) metPtq tQvU w`b ÷ tꝑx
- 43) f-ZtKi Ašfꝑ bq RvMtie
- 44) evsj vt`tk t`Lv hvq QvqvcvZ
- 45) tgi yevqj cāvb `enkó` Uvi wqwi hꝑMi
- 46) GKwU Aweivg AvtMqWwi mgy`e`i
- 47) tμvtqwkqvi ivRavxi bvg tḡsmgx Rj evqy
- 48) evsj vt`tki cinvomgr evqgŪj
- 49) PĀMōg I gsj vq i tqtQ kxZj I fviX
- 50) gmvRt`i bMix XvKv

-(0)-





Avqb evqy

KKØxq I gKixq D"PPvc ej q t\_#K th evqyibi ¶xq ubaPvc ej tqi w\_#K cēvnnZ nq  
Zv#K Avqb etj | tdt#tj i m# Abym#i GB evqyDĒi tMj v#a©DĒi-ce®w K t\_#K  
Ges `¶¶Y tMj v#a©¶¶Y-ce®w K t\_#K cēvnnZ nq| c#PxbKv%# cij j vM#tbr emYR"  
Rvnr GB evqycēvnt#K Abym#i Y K#i hvZvqvZ KiZ| ZvB Gi Aci bvg emYR" evqy  
(Trade winds) |

DĒi tMj v#a©GB evqyDĒi ce®Avqb evqybv#tg cwi wPZ| DĒi-ce®Avqb evqyNĒvq 16  
wK#j wgvUvi Ges `¶¶Y-ce®Avqb evqyNĒvq c#j 23 wK#j wgvUvi tetM cēvnnZ nq|  
Avqb evqyibi ¶#i Lvi KvQvKvQ Avmtj tKLvbKvi AvZwi<sup>3</sup> Zvc GB evq#K DaY#jx  
K#i | ZLb wbi ¶xq AĀj evqj Avb#v#gK (fv#gi m#\_ mgvš#i vj) cēvnn eU n#q hvq|  
ZvB wbi ¶#i Lvi DĒi ev `¶¶#Y 5 A¶#i Lv ch#š#i ~v#K kvš#ej q etj |

[wP#]

cw#gv evqy

m#š#q D"PPvc ej q t\_#K DĒi I `¶¶Y tgi ye# AĀ#j i ubaPvc ej tqi w\_#K th evqy  
cēvnnZ nq Zv#K cw#gv evqyetj | GB evqyDĒi tMj v#a©w#w w\_#K tetK `¶¶Y-cw#g  
evqyGes `¶¶Y tMj v#a©evgw\_#K tetK DĒi-cw#g cw#gv evqy(NY#i daY) bvg avi Y  
K#i |



FZzcwieZ<sup>Y</sup>i mvt\_ mvt\_ th evqçv<sup>ni</sup> w`K cwieZ<sup>0</sup> nq Zv<sup>t</sup>K tgšmgx evqyetj |  
 mth<sup>P</sup> DĒivqY Rj fiv<sup>t</sup>M Ziv<sup>t</sup>ci cv\_<sup>†</sup>K<sup>i</sup> Rb<sup>ˆ</sup> tgšmgx evqy m<sup>o</sup> nq |  
 Rly-RjvB gv<sup>t</sup>m mh<sup>©</sup>KK<sup>0</sup>μvški Dci j <sup>†</sup>v<sup>t</sup>e w`KiY t`q | dtj ga<sup>ˆ</sup> `w<sup>†</sup>Y-ce<sup>©</sup>Gikqv  
 DĒi-cw<sup>0</sup>g fvi Z L<sup>o</sup>B DĒB nBqv hvq | ZLb GB AĀ<sup>t</sup>j w<sup>o</sup> <sup>†</sup>v<sup>t</sup>ci m<sup>o</sup> nq | tm mgq  
 fvi Z gnw<sup>†</sup>Mi t\_<sup>†</sup>K `w<sup>†</sup>Y-ce Avqb evqyGB AĀ<sup>t</sup>j i w<sup>†</sup>K Av<sup>t</sup>m | GB evqy bvg nq  
 `w<sup>†</sup>Y-cw<sup>0</sup>g tgšmgx evqy kvZKv<sup>t</sup>j mh<sup>©</sup>gKiμvški Dci j <sup>†</sup>v<sup>t</sup>e w`KiY w<sup>†</sup>tj `w<sup>†</sup>Y-  
 ce<sup>©</sup>Gikqv I ga<sup>ˆ</sup> Gikqvi <sup>ˆ</sup>j fiv<sup>t</sup>M L<sup>o</sup>B kvZj n<sup>t</sup>q c<sup>t</sup>i | w`Kšz<sup>t</sup>Mvjv<sup>t</sup>a<sup>P</sup> mg<sup>o</sup>  
 A<sup>t</sup>c<sup>†</sup>v<sup>†</sup>KZ.D<sup>o</sup> <sup>†</sup>v<sup>t</sup>K | ZvLb <sup>ˆ</sup>j fiv<sup>t</sup>Mi D<sup>†</sup>P Pvc AĀ<sup>j</sup> t\_<sup>†</sup>K evqyc<sup>†</sup>v<sup>†</sup>nZ nq | GB evqy  
 DĒi-ce<sup>©</sup> K t\_<sup>†</sup>K Av<sup>t</sup>m etj G<sup>†</sup>K DĒi-ce<sup>©</sup>tgšmgx evqyetj |

3.7.6 : evqy c<sup>†</sup>v<sup>†</sup>ni dj

evqçv<sup>ni</sup> m<sup>o</sup>lj Ges K<sup>o</sup>lj DfB Av<sup>t</sup>Q thg-  
 m<sup>o</sup>lj :

1. evqçv<sup>ni</sup> f<sup>ˆ</sup>-c<sup>†</sup>o Ziv<sup>t</sup>ci mgZv i <sup>†</sup>v<sup>†</sup>K<sup>i</sup> |
2. mg<sup>ˆ</sup>-evqyng<sup>ˆ</sup>-<sup>o</sup>Zxi <sup>ˆ</sup>-<sup>ˆ</sup>j fiv<sup>t</sup>M<sup>†</sup>K w<sup>ˆ</sup>o I w<sup>o</sup>g<sup>o</sup> i v<sup>t</sup>L
3. w<sup>o</sup>bqZ evqyevqy<sup>t</sup>j v mg<sup>ˆ</sup>-<sup>†</sup>m<sup>†</sup>Z w<sup>o</sup>bqš<sup>o</sup> K<sup>t</sup>i |
4. evqçv<sup>ni</sup> kv<sup>ˆ</sup>š<sup>†</sup>Z Kj P<sup>†</sup>v<sup>†</sup>v<sup>†</sup> hvq |
5. evqçv<sup>ni</sup> <sup>o</sup>v<sup>†</sup>v<sup>†</sup> t<sup>o</sup>šKv w`Ksev Rv<sup>†</sup>v<sup>†</sup>R cij Lv<sup>†</sup>v<sup>†</sup> hvq |
6. Av<sup>ˆ</sup>evqçv<sup>ni</sup> dtj ev<sup>o</sup>cvZ nq |
7. tKv<sup>†</sup> tKv<sup>†</sup> <sup>ˆ</sup>v<sup>†</sup>bi t<sup>†</sup>v<sup>†</sup>M R<sup>†</sup>ev<sup>†</sup>evqçv<sup>ni</sup> Ab<sup>ˆ</sup> <sup>†</sup>P<sup>†</sup>j hvq |

K<sup>o</sup>lj

1. So, Z<sup>o</sup>lvb, UvBdb, U<sup>†</sup>b<sup>†</sup>w<sup>†</sup>, nwi<sup>†</sup> <sup>†</sup>Kb evqyc<sup>†</sup>v<sup>†</sup>ni Rb<sup>ˆ</sup>B nq |
2. f<sup>ˆ</sup>-c<sup>†</sup>o<sup>i</sup> <sup>†</sup>v<sup>†</sup>q mvab K<sup>t</sup>i |
3. So-Z<sup>o</sup>lv<sup>†</sup>b Ni enw<sup>o</sup>, Mv<sup>†</sup>Qcij v mn RbR<sup>†</sup>ev<sup>†</sup> <sup>†</sup>v<sup>†</sup>ZM<sup>o</sup> nq |

mvi<sup>†</sup>sk

K mh<sup>©</sup>I evqyP<sup>†</sup>v<sup>†</sup>ci cv\_<sup>†</sup>K<sup>i</sup> Rb<sup>ˆ</sup> w<sup>o</sup> <sup>†</sup>v<sup>†</sup> <sup>†</sup>v<sup>†</sup>gi evqy GK<sup>ˆ</sup>v<sup>†</sup>b n<sup>†</sup>Z Ab<sup>ˆ</sup> <sup>ˆ</sup>v<sup>†</sup>b  
 c<sup>†</sup>v<sup>†</sup>nZ n<sup>†</sup> q<sup>†</sup>K evqçv<sup>ni</sup> etj |  
 K Zvc I P<sup>†</sup>v<sup>†</sup>ci cv\_<sup>†</sup>K<sup>i</sup> Rb<sup>ˆ</sup> evqçv<sup>ni</sup>nZ nq |  
 K w<sup>ˆ</sup> evi<sup>†</sup>w<sup>†</sup> i nwm-ev<sup>†</sup>x, FZzcwieZ<sup>0</sup> Ges Rj fiv<sup>t</sup>M I <sup>ˆ</sup>-<sup>ˆ</sup>j fiv<sup>t</sup>M Ziv<sup>t</sup>ci Zvi Z<sup>†</sup>g<sup>ˆ</sup>i  
 Rb<sup>ˆ</sup> mvg<sup>†</sup>qK evqi m<sup>o</sup> <sup>ˆ</sup>- nq |  
 K th evqy<sup>†</sup>v<sup>†</sup>q<sup>†</sup>gZ c<sup>†</sup>v<sup>†</sup>nZ nq Ziv<sup>t</sup>K w<sup>o</sup>bqZ evqyetj |  
 K w<sup>o</sup>bqZ evqyZ<sup>o</sup>b c<sup>†</sup>K<sup>†</sup>vi Avqb evqyc<sup>†</sup>v<sup>†</sup>ni evqy<sup>†</sup> tgi yevqy<sup>†</sup>  
 K evqçv<sup>ni</sup> biv<sup>†</sup>wea m<sup>o</sup>lj Ges mvg<sup>†</sup>v<sup>†</sup> K<sup>o</sup>lj i<sup>†</sup>q<sup>†</sup>Q |

cv<sup>†</sup>v<sup>†</sup>Ei gj<sup>ˆ</sup>-v<sup>†</sup>qb 3.7

1. *nij Kv evqytKv\_vq hvq?*  
 (K) Dcti Dfv hvq (L) wbtP Pij hvq|  
 (M) Wvb w` tK c`vnnZ nq (N) evg w` tK c`vnnZ nq
  
2. *D`Ei tMjvta`eq tKvb w` tK c`vnnZ nq?*  
 (K) evgw` tK (L) Wvbw` tK  
 (M) D`Ei w` tK (N) `w`Yw` tK
  
3. *D`Ei tMjvta`th w` tK evqyc`vnnZ nq tm w` tK w`Qb w` tK wd`i `voitj Wvbw` tKi evqyt`tg evg w` tK Pvc Kg \_v`K Ges `w`Y tMjvta`Gi necixZ Ae`v nq-evqyc`vtni GB m`F`Uj bvg w`K?*  
 (K) AvK`g`W`mi m` (L) td`i`j`i m`  
 (M) evBm e`v`j U m` (N) Uvi`m`bi m`
  
4. *KK`xq I gKixq D`PPvc ej q n`Z th evqybi`xq ej`qi w` tK c`vnnZ nq Zv`K w`K evqye`j ?*  
 (K) tgi`yevqy (L) tg`m`gx evqy  
 (M) c`Z`qb evqy (N) Avqb evqy
  
5. *`w`Y ce`Avqb evqyKZ w`Ktj w`gUvi te`M c`vnnZ nq?*  
 (K) 16 (L) 23  
 (M) 29 (N) 33
  
6. *tgi`yevqyc`vnb `eik`ó` w`K?*  
 (K) nij Kv Ges D`E`B (L) D`o I Av`  
 (M) Zvc I Pvc nxb (N) kxZj I fvi`x
  
7. *mvgw`qK evqyc`v`n Kq ai`Yi nq?*  
 (K) Pri (L) `B  
 (M) Qq (N) AvU

civ 3.8 : evqy KvR

D`i`k`

GB civ tk`I Avci`b

K evqy KvR `tj vi bvg ej`Z cri`teb

K evqy Kv`Ri eY`v w` tZ cri`teb|

K evqy Kv`Ri dtj m`p f`igi`f`ci eY`v w` tZ cri`teb|

3.8.1 : evqjy Kvr

evqy ɣi t̃Yi Kvr Kti | h\_v

1. Ɔq Kvr,
2. mĀq Kvr

evqjy Ɔq Kvr

evqy Ɔq Kvrh<sup>o</sup> ƆZbfvM Kti | h\_v- (1) Aebgb (Deflation) (2) AeNIY (Abrasion) (3) NIY (Attrition)

(1) Aebgb (Deflation) : giyAĀtj cĕj evqy<sup>o</sup>evtn giyDcwi fvM i i<sup>-</sup> I nij Kvr evj KYv Dto ƆMtq Ɔbafv ev MtZP mġo Kti, GtK Aebgb etj |

(2) AeNIY (Abrasion) : giyfvgtZ evZvmi mt½ evij, mƆh<sup>e</sup> Ɔk v cƆvZ. tƆtġ GK<sup>-</sup>vb ntZ Ab<sup>-</sup>vb<sup>-</sup> vbvšh Z nq | H me c<sup>-</sup>v<sup>o</sup>evZim Doeri mgq Ɔk v<sup>-</sup>t̃i i mvt<sup>-</sup> msNtI P dtj giyAĀtj bvbvi d fvgtƆci mġo Kti | Dctii Kvb Ɔk vi mt½ tKvgj Ɔk vi<sup>-</sup> li<sup>-</sup> vƆtj tKvgj Ɔk v Avak Ɔq cĕB ntq e<sup>-</sup>v<sup>½</sup> i QvZvi b<sup>-</sup>vq Dctii Ask Pl ov I P<sup>-</sup>v<sup>o</sup> AvKwZi nq Ges ƆbtPi Ask miyGes Dctii Ask LƆ Pl ov AvKwZi ntq Ae<sup>-</sup>vb Ktj DnvK tMŠi (Gour) ej v nq | mrviv giyfvgtZ GB RvZxq eū tMŠi t<sup>-</sup> Kvr hvq |

Kvj vnvvi Ges Ab<sup>-</sup>vb<sup>-</sup> giyAĀtj cĕ li gq mgfvgtZ AtbK mgq Aí D<sup>-</sup>P BZ<sup>-</sup>Z Ɔev ƆB cĕq mgvb D<sup>-</sup>PZ Ɔev Ɔk<sup>o</sup> ƆJ v t<sup>-</sup> Kvr hvq | Bnv<sup>-</sup> i Bbtmj evM<sup>o</sup>(AƆYdVj i\_Y) ev ƆqRvZ ceZ etj | GB mKj ceZ AZ<sup>-</sup>š Kvb cĕ li Ɔviv MvZ kZ kZ ermi at̃i evqj ƆqKvthP dtj GBme GjvKvq fvgtƆc cĕq mgZj ntq ƆMtqQ | tKej gvĪ Kvb mĪ<sup>-</sup> t̃j v tKvbi Ktg AvZh Ɔv ƆqRvZ Ɔk vi Ɔc ƆU<sup>-</sup>K AvtQ |

(3) NIY (Attrition) : cĕj evqy<sup>o</sup>evtni Rb<sup>-</sup> cĕ li LtŪi ci<sup>-</sup> ūt̃i i mrvZ NIY nq | GtZ cĕ li LtŪ<sup>-</sup> t̃j v tƆt̃<sup>½</sup> UKiv UKiv ntq tktl ƆZ<sup>o</sup> ej KYvq cwi YZ nq | evj KYvB nj giyAĀtj i evqj ƆqKvthP tkl chq |

3.8.2 : evqjy mĀq Kvr

giyAĀtj cĕngvb evqjy MvZc<sup>-</sup> tSvcsvo, cĕ li LtŪ, evej vRvZxq KxUMQ BZ<sup>-</sup>w<sup>-</sup> evavi m<sup>o</sup> Ɔx<sup>o</sup> ntj evqy<sup>o</sup>evtn evij i ƆKQyAsk tmlv<sup>o</sup> w<sup>-</sup> tbi ci<sup>-</sup> w<sup>-</sup> b Rgv ntZ v<sup>-</sup>t̃K Ges μgk tQvU Kv<sup>-</sup>Uv GKwU evij i c<sup>-</sup>v<sup>o</sup>to i mġo nq | GtK evij qm<sup>o</sup> (Sand dune) etj |

thw<sup>-</sup> K ntZ evqy<sup>o</sup>evtn nq tm<sup>-</sup> w<sup>-</sup> t̃K v<sup>-</sup>t̃K evij qm<sup>o</sup> gv<sup>-</sup>v (Head Dune) Avi evqy<sup>o</sup>th w<sup>-</sup> t̃K v<sup>-</sup>t̃K evij qm<sup>o</sup> i t̃j R (Tail Dune) | gv<sup>-</sup>vi w<sup>-</sup> t̃K evij qm<sup>o</sup> m<sup>-</sup>ĀZ ntq AMh<sup>-</sup>i ntj ej v nq AMh<sup>-</sup>Z<sup>o</sup> evij qm<sup>o</sup> (Advsnce Dune) | Avevi, tKvb GKwU Ɔk vi LtŪi<sup>-</sup> Ɔc<sup>-</sup>v<sup>o</sup>tk evij qm<sup>o</sup> i mġo ntj Zv<sup>-</sup>t̃K ej v nq cvk<sup>o</sup> evij qm<sup>o</sup> (Lateral Dune) |

AvKwZ. I Mvb Abh<sup>-</sup>vq<sup>o</sup> evij qm<sup>o</sup> Avevi<sup>-</sup> Ɔv<sup>-</sup>t̃M fvM Kiv hvq

1.  $\nu Z h R$  ewij qmo (Transverse Dune) Ges (2)  $Ab\%N^{\circ}$  ewij qmo (Longitudinal Dune) th me ewij qmo evqj Muzi mt $\frac{1}{2}$  AvovAvnofite MuvZ nq Zvt`i etj  $\nu Z h R$  ewij qmo | th me ewij qmo evqj Muzi mt $\frac{1}{2}$  mgvšlvj fite m $\mu$  nq Zvt`i ej v nq  $Ab\%N^{\circ}$ ewij qmo | GBfite Ly `xN $^{\circ}$ ewij qmo MuvZ ZvtK etj mxd ewij qmo (Seif Dune) |

GQrov evqj Muzi mt $\frac{1}{2}$  AvovAvnofite AaP`iKviti th ewij qmo m $\mu$  nq ZvtK evL $\Phi$  (CUIc`Uf) etj | evL $\Phi$ bi mb $\Phi$ Li w`K DEj (DgfkYm) I ucQb w`eK AeZj (DgfwUKY) AvKuzi ntq \_vtK | evL $\Phi$  t`L $\Phi$ Z A $\Phi$ bKuv AaP`iKviti mks Gi b`vq | evL $\Phi$  mgZj fvg $\Phi$ Z A $\Phi$ bK $\nu$ ij GK $\Phi$ I Ae`vb K $\Phi$ j | evq $\Phi$ ev $\Phi$ ni Muz Ab $\nu$ qx Giv ax $\Phi$ i ax $\Phi$ i `vbvšh $\Phi$ Z nq, ZvB G $\Phi$ `i Pj bk $\nu$ j ewij qmo etj |

mvi vsk

- K evqj  $\nu$ ai $\Phi$ Yi KvR K $\Phi$ i | h $\nu$ - $\Phi$ q KvR I m $\hat{A}$ q KvR |
- K evqj Zbc $\Phi$ Kvi  $\Phi$ q KvR K $\Phi$ i | h $\nu$ -Aebgb, AeNI $\Phi$  I NI $\Phi$
- K Aeb $\Phi$ bi dtj MZ $\Phi$ ev ub $\Phi$  fvgi m $\mu$  nq |
- K AeNI $\Phi$ Yi dtj R $\Phi$  $\Phi$ Mb Ges  $\Phi$ qRvZ ce $\Phi$ Zi m $\mu$ U nq |
- K NI $\Phi$ Yi dtj c $\Phi$ li L $\Phi$  ug $\nu$  evj K $\Phi$ iq cwi YZ nq |
- K evqj m $\hat{A}$ q Kv $\Phi$ h $\Phi$  dtj ewioqmo m $\mu$  nq |

AvKuz. I Mvb Ab $\nu$ qx ewij qmo $\Phi$ K `yfv $\Phi$ M fvM Kiv nq | h $\nu$ - $\nu Z h R$  ewij qmo | Ges  $Ab\%N^{\circ}$ ewij qmo |

cv $\Phi$ V $\Phi$ Ei gj`vqb 3.8

1. evqj c $\Phi$ vb KvR K $\Phi$ U?
 

(K) 1U	(L) 2U
(M) 3U	(N) 4U
2.  $\nu$ Kfite R $\Phi$  tMj m $\mu$  nq?
 

(K) NI $\Phi$ Yi dtj	(L) NI $\Phi$ Yi dtj
(M) Aeb $\Phi$ bi dtj	(N) m $\hat{A}$ tqi dtj
3. tKvb tKvb gi fvg $\Phi$ Z  $\nu$ kj v Avmgvb fite  $\Phi$ q $\Phi$ B ntq ub $\Phi$ Pi Ask Ly mi yGes Dc $\Phi$ ii Ask Ly P $\Phi$  ov AvKuzi ntq Ae`vb K $\Phi$ j Dnv $\Phi$ K  $\nu$ K etj ?
 

(K) R $\Phi$ $\Phi$ Mb	(L) eri Lvb
(M) tM $\Phi$ i	(N) ewioqmo
4. gi yA $\hat{A}$ tj i evqj  $\Phi$ q Kv $\Phi$ h $\Phi$  tkl ch $\Phi$ stKvbU?
 

(K) tM $\Phi$ i	(L) m $\hat{A}$ qRvZ ce $\Phi$
-----------------	--------------------------------

(M) evij qmo

(N) evj KYv

5. gv\_vi w`tk evij qmo miv`Z n`q AM`hi n`j Dniv`K w`K etj ?  
 (K) AM`Z`P`evij qmo (L) w`Zh`R` evij qmo  
 (M) cvk\_i`evij qmo (N) Ab`%`N`evij qmo

6. evqj Mvzi m`1/2 Avov`vmo fite Aa`P` `Kvi th evij qmo miv` Kq| Zv`K w`K etj |  
 (K) mxd evij qmo (L) AM`Z`P`evij qmo  
 (M) evL`B (N) Pj bkxj evij qmo

cv 3.9 : w`fba`c`Kvi ev`cvZ I mgel`P` ti Lv

D`i`k`

K w`fba`c`Kvi ev`cvZi bvg ej`z` cviteb

K w`fba`c`K ev`cvZi eY`v w`z` cviteb

K mgel`P` ti Lv w`K Zv` ej`z` cviteb

K ev`g`v b`h`S`j eY`v w`z` cviteb

3.9.1 t ev`cvZ w`K?

f`-c`p`-` w`ec`-` cvb i`vki D`v`i f`v`M m`h`i`w`k`f` Zv`ci d`j Rj`xq ev`u`i miv` nq|  
 GB Rj`xqev`u` D`a`Y`D`v` Avei NY`f`Z` nq| GK mgq RgvU` evav Rj`xqev`u` Avcb  
 f`v`i f`-c`p`o` cvZZ` n`j B`G`K ev`cvZ` etj |

Ab`v`ie` ejv` h`vq` evq`Rj`xq` ev`u`i` cvig`v`Y` e`w`x` t`c`j` D`v` NY`f`Z` n`q` m`v`e`  
 Rj`KY`i`f`ci` evq`U`j`i` a`y` KYv` Av`k`q` K`i` Da`Y`v`k` f`v`m`z` \_`v`K| G`K` etj` tgN|  
 Da`Y`v`k` Zv`ci` n`m` c`B`f`-`i` w`k`v`i`v`1/2` D`v`-`Z` D`v`-`Z` nq` Ges` tgN` ga`w`-`Z` Rj` KYv`  
 ci`-`u`i`i` ms`-`u`k`m`-`u`k`m`G`m` A`t`c`v`K`Z` ep`-`v`Kvi` Rj` w`e`-`j`z` i`f`cv`sh`i`Z` n`q` f`-  
 c`p`o` c`to`| G` t`KB` ev`cvZ` (Rainfall ) etj |

w`P`I`

3.9.2 t w`fba`c`Kvi ev`cvZ

ev`cvZ` w`K` f`v`te` ms`N`i`U`Z` nq,` t`m`B` w`f`v`E`z` ev`cvZ`z`K` c`h`v`b`Z` P`v`i`w` f`v`M` f`v`M` K`iv` nq|  
 h`\_`v`-` 1. cv`i` Pj` b` ev`cvZ` 2. `k`j` v`r`f`c` ev`cvZ` 3. NY`v`Z` ev`p` 4. ms`N`I` ev`cvZ`

1. cv`i` Pj` b` ev`cvZ` (Convictional Rain) t` w`b`-`P`v`c` g`U`j`i` evq`D`E`B` n`q` D`c`i`i`  
 D`v` Ges` k`x`Z` I` c`h`v`i`Z` nq| GB`f`v`te` evq`j` Z`v`c` n`m` t`c`q` Av`Z`v`i`<sup>3</sup> Rj`xq` ev`u`  
 N`b`r`f`Z` n`j` Zv`K` cv`i` Pj` b` ev`cvZ` etj |
2. `k`j` v`r`f`c` ev`cvZ` 3. NY`v`Z` ev`p` 4. ms`N`I` ev`cvZ` (Orographic Rain) etj |  
 ce`f`Z`i` th` cv`k`ev`q`yc`e`v`n`Z,` t`m`L`v`t`b` GB` t`k`Y`i` ev`cvZ` nq| D`v`i`K` c`i`Z`ev`-` cvk`

(Windward Slope) etj | Aci cirk<sup>o</sup>epócivZ nq bv ej tj B P<sup>tj</sup> | DnivK epó Qvq  
ev Ab<sup>o</sup>vZ cirk<sup>o</sup>(Leeward Slope) etj |

3. NY<sup>o</sup>vZ epócivZ t NY<sup>o</sup>vZi dtj <sup>o</sup>ab<sup>o</sup>ep<sup>o</sup> tK<sup>o</sup> i evqyNj<sup>tj</sup> Dcti DV<sup>tj</sup> vK<sup>tj</sup>  
Dnvi Zvc n<sup>o</sup>m cvq I Dn<sup>o</sup> kxZj nq| evq<sup>tj</sup> Ae<sup>o</sup>vbiZ AwZwi<sup>3</sup> Rj xq ev<sup>o</sup>ú ZLb  
NYxfZ n<sup>tq</sup> epócivZ N<sup>tU</sup>| G<sup>tj</sup>K msNI<sup>o</sup>epócivZ (Ggi f<sup>o</sup>d ŠJaf) etj | GB c<sup>o</sup>Kvi  
epócivZ m<sup>o</sup>avi YZ b<sup>o</sup>vZk<sup>tj</sup>Zv<sup>o</sup> A<sup>o</sup>Ā<sup>tj</sup> t<sup>o</sup> Lv hvq|

3.9.3 t mgel<sup>o</sup>i Lv

c<sup>o</sup>xi th mKj v<sup>o</sup>tb Mo evl<sup>o</sup>R epócivZ nq, gv<sup>o</sup>vP<sup>tj</sup> tm mKj v<sup>o</sup>tb Dci v<sup>o</sup>tq  
KZK<sup>o</sup> vj tiLv Aw<sup>o</sup>Z Kiv nq| G mKj tiLv mgel<sup>o</sup> tiLv (A<sup>o</sup>g<sup>o</sup>nY<sup>o</sup>) etj | G tiLv  
v<sup>o</sup>tj vl m<sup>o</sup>gv<sup>o</sup>tiLv b<sup>o</sup>vq Av<sup>o</sup>Kiv ev<sup>o</sup>Kv nq|

3.9.4 t epógv<sup>o</sup> hšj (Rain Gauge) t f<sup>o</sup>c<sup>o</sup> v<sup>o</sup> I mgq<sup>o</sup>f<sup>o</sup> epó<sup>o</sup> ZviZg<sup>o</sup> nq|  
epógv<sup>o</sup> hšj m<sup>o</sup>v<sup>o</sup>th<sup>o</sup> epó<sup>o</sup> c<sup>o</sup>vi gv<sup>o</sup>Y v<sup>o</sup>Y<sup>o</sup> Kiv hvq|  
[v<sup>o</sup>P<sup>tj</sup>]

50.80 tmt vgt<sup>o</sup> v<sup>o</sup>N<sup>o</sup> 20.32 tmtvgt<sup>o</sup> evm v<sup>o</sup>evk<sup>o</sup> GKivU tej bv<sup>o</sup>Kvi cv<sup>o</sup>Ā (Dnda<sup>o</sup>fXYi)  
epógv<sup>o</sup> hšj<sup>o</sup> e<sup>o</sup>üZ nq| Gi g<sup>o</sup>Ā GKivU dv<sup>o</sup>tbj h<sup>o</sup>v<sup>o</sup> v<sup>o</sup>K Ges v<sup>o</sup>fZ<sup>o</sup> GKivU tevZj  
ev<sup>o</sup>tv<sup>o</sup> v<sup>o</sup>K| dv<sup>o</sup>tbj i g<sup>o</sup>v<sup>o</sup> v<sup>o</sup>tq epó<sup>o</sup> cv<sup>o</sup>b tevZ<sup>o</sup> m<sup>o</sup>ĀZ nq| v<sup>o</sup>ov<sup>o</sup> mgq c<sup>o</sup>i GB  
epó<sup>o</sup> v<sup>o</sup>P<sup>tj</sup> epógv<sup>o</sup> hšj cv<sup>o</sup>b GKivU B<sup>o</sup>Ā v<sup>o</sup>P<sup>o</sup>v<sup>o</sup>Z v<sup>o</sup>f<sup>o</sup>ev<sup>o</sup>gv<sup>o</sup>Y cv<sup>o</sup>Ā tXj KZ tmt vgt<sup>o</sup>  
epócivZ nj Zv t<sup>o</sup> Lv hvq| Gf<sup>o</sup>v<sup>o</sup> tKiv v<sup>o</sup>tb<sup>o</sup> v<sup>o</sup>ov<sup>o</sup>K, gv<sup>o</sup>v<sup>o</sup>K I evl<sup>o</sup>R epócivZ c<sup>o</sup>vi gv<sup>o</sup>Y  
R<sup>o</sup>v<sup>o</sup> hvq| ðGK t<sup>o</sup>v<sup>o</sup>U<sup>o</sup>v<sup>o</sup> epócivZ<sup>o</sup> Gi A<sup>o</sup>ev<sup>o</sup> v<sup>o</sup>Ā cv<sup>o</sup>b I ev<sup>o</sup>ú bv nq, gv<sup>o</sup>U<sup>o</sup>Z  
i<sup>o</sup>v<sup>o</sup>K<sup>o</sup> hvq, M<sup>o</sup>v<sup>o</sup>tq bv c<sup>o</sup>to ev Ab<sup>o</sup> tKiv K<sup>o</sup>v<sup>o</sup>Y bó bv nq Zv n<sup>o</sup>tj H epó<sup>o</sup> cv<sup>o</sup>b gv<sup>o</sup>U  
Dci GK tmt vgt<sup>o</sup> DP<sup>o</sup>v<sup>o</sup>tq v<sup>o</sup>K<sup>o</sup>etj|

GLv<sup>o</sup>tb D<sup>o</sup>tj v<sup>o</sup>th<sup>o</sup>v<sup>o</sup> th epóciv<sup>o</sup>Zi KYvi Dci v<sup>o</sup>f<sup>o</sup>v<sup>o</sup> K<sup>o</sup>i epóciv<sup>o</sup>Z<sup>o</sup>K Avevi v<sup>o</sup> tk<sup>o</sup>v<sup>o</sup>Z  
f<sup>o</sup>v<sup>o</sup>M Kiv hvq| h<sup>o</sup>v<sup>o</sup> v<sup>o</sup> v<sup>o</sup> epó I v<sup>o</sup>kj v<sup>o</sup>epó,

v<sup>o</sup> v<sup>o</sup> epó (Drizzle)

mg Av<sup>o</sup>K<sup>o</sup>Z. v<sup>o</sup>evk<sup>o</sup> AmsL<sup>o</sup> v<sup>o</sup>v<sup>o</sup> v<sup>o</sup> Rj KYv m<sup>o</sup>gv<sup>o</sup> Zg evqyc<sup>o</sup>v<sup>o</sup>tn g<sup>o</sup>tb nq evZ<sup>o</sup>tm  
t<sup>o</sup>f<sup>o</sup>tm<sup>o</sup> teov<sup>o</sup>Q| Z<sup>o</sup>v<sup>o</sup>K v<sup>o</sup> v<sup>o</sup> epó etj |

v<sup>o</sup>kj v<sup>o</sup>epó

hLb c<sup>o</sup>ej Da<sup>o</sup>v<sup>o</sup>M<sup>o</sup>Z<sup>o</sup>v<sup>o</sup> epó<sup>o</sup> Rj v<sup>o</sup>ev<sup>o</sup> yeú D<sup>o</sup>Ā<sup>o</sup>AwZ kxZj v<sup>o</sup>tb bxZ nq, ZKY H  
Rj v<sup>o</sup>ev<sup>o</sup> y<sup>o</sup>Av<sup>o</sup>K V<sup>o</sup>U<sup>o</sup>vq Rgv<sup>o</sup>U teta ei<sup>o</sup>td c<sup>o</sup>vi YZ n<sup>o</sup>tq hvq| evq<sup>o</sup> telM K<sup>o</sup>g<sup>o</sup>tj Dn<sup>o</sup> v<sup>o</sup>tbP  
t<sup>o</sup>btq Av<sup>o</sup>v<sup>o</sup> mg<sup>o</sup>tq v<sup>o</sup>f<sup>o</sup>ev<sup>o</sup>v<sup>o</sup>ev<sup>o</sup>Rgv<sup>o</sup>U ev<sup>o</sup>v<sup>o</sup> Rj xq ev<sup>o</sup>ú L<sup>o</sup>U ci v<sup>o</sup>ú<sup>o</sup>ti m<sup>o</sup>v<sup>o</sup> msNI<sup>o</sup>n<sup>o</sup>tj  
U<sup>o</sup>K<sup>o</sup>ti<sup>o</sup> n<sup>o</sup>tq f<sup>o</sup>c<sup>o</sup> cv<sup>o</sup>ZZ nq, G<sup>o</sup>t<sup>o</sup>KB v<sup>o</sup>kj v<sup>o</sup> epó etj |

m<sup>o</sup>visk

K Rj xq ev<sup>o</sup>ú D<sup>o</sup>Ā<sup>o</sup>D<sup>o</sup>v<sup>o</sup> N<sup>o</sup>bx<sup>o</sup>fZ n<sup>o</sup>tq Avevi Rj K<sup>o</sup>v<sup>o</sup> i<sup>o</sup>f<sup>o</sup>c f<sup>o</sup>c<sup>o</sup>÷ cv<sup>o</sup>ZZ  
n<sup>o</sup>l q<sup>o</sup>v<sup>o</sup>t<sup>o</sup>KB epócivZ etj |

K eþócvZ cÞvi cKvi h\_ cwiPj b eþócvZ, `ktj vrt¶c eþócvZ, NY@vZ eþócvZ, msNI eþócvZ |

K eþóKYvi Dci wfvÉ Kti eþócvZtK Avevi I `B fvM fvM Kiv nq, h\_v- , wo , woewó, wkj veþó

K cwi\_exi th mKj `vfb Mo eml R Mo eml R eþócvZ mgvb nq gvbwPti th mKj `vfb Dci w`tq th Avkiv evkiv ti Lv A¼b Kiv nq ZvtK mgeaB ti Lv etj |

K eþócvZ cwi gvcK hštK ðeþógvbhšt ejv nq | Bsti RxtZ GB hštK () ti BbMR ejv nq |

cvtVvÉi gj`vqb 3.9

1. eþócvZ thfvte msMwZ nq th wfvÉtZ eþócvZtK Kq fvM fvM Kiv nq?

(K) 2 fvM

(L) 3 fvM

(M) 4 fvM

(N) 5 fvM

2. ce¶Zi Mvtq erav tctq tKvb ai¶Yi eþócvZ nq?

(K) msNI ©

(L) NY@vZ

(M) cwi Pj b

(N) `ktj vrt¶c

3. tKvb AAjtj tekx msNI eþócvZ nq?

(K) tgi yAAjtj

(L) μvštq AAjtj

(M) bwiZtZvò AAjtj

(N) gi yvq AAjtj

civ 3.10 t tgšmgx evqy

Dti k`

GB civ tkti Avci b

K tgšmgx evqy K Zv RvbtZ cvi teb

K tgšmgx evqy eþó Kvi Y Dti Kiti Z cvi teb

K tgšmgx evqy eY@v w`tZ cvi teb

K f\_citò tKvb tKvb t`k ev Gj Kiv tgšmgx evqy Lv hvq Zv Dti Kiti Z cvi teb

3.10.1 t tgšmgx evqy K?

Aviex ðgl mgt ktai evsjvq A\_©ntjv FZz FZzcwieZþbi mvt\_ mvt\_ th evqy c@vtni w`K cwi evZ nq Dnvi bvg tgšmgx evqy Bsti RxtZ GB evqyc@vntK (Monsoon) etj |





K cū\_ex cto tRvqi fūlv mīoi tḡtī P>`I mthp cḡve eYb KiZ cviḡeb

3.11.1 t tRvqi fūlv (Tide ad Ebb)

mgj i cūb ubi q- mq Ašli GK vtb dzj Dtv Ges GK vtb tbtg hvq| Gfite cōZ`K mīto evi Nūlvq mgj i cūb GKevi ubqūgZfite DVv-bvgr Kti | mgj i cūb ubqūgZfite dzj DVvK tRvqi nḡq vfk | tRvqi fūlv mg`cō Ges mgj i tgvnrv nḡZ b`x cḡ\_ wKQ `i chšl Abfz nq| mgj i ga`fvM cūb mīavi YZ 30 tmt ūgt nḡZ 90 tmt ūgt (1-3 dU chš) DVv bvgr Kti, wKšZDcKtj i wBKU mīMi DcmvMti i Mfxi Zv Kg etj tmLvḡb cūb i wK AḡBK teiw DVv bvgr Kti | GRb`B mgj i tgvnrv nḡZ b`x mgḡni MvZcḡ\_ KḡqK gvBj e`vrx tRvqi fūlv Abfz nq| Dbḡ mīMti i tRvqi hLb Zvi DcKtj AMfxi gnḡtmvctḡb cōek Kti ZLb Gi D`PZv eḡx cvq| mgj i Lwv A\_ev b`xi tgvnrvq tcšQvevi ci tRvqiti i cūb b`xi Mvzi vevixZ v`ḡK cēvrvZ nq| me b`xi wFzi v`ḡq hLb tRvqiti i cūb `j fvMi Af`šti cōek Kti ZLb AḡBK mgq gḡb nq|

3.11.2 t tRvqi fūlv Kvi Y

tKb cōZv`b wKQymḡḡi Rb` mgj i cūb dzj Dtv Avevi ubqūgZfite tbtg hvq G m`uḡtK` fveZtB gvbtj i gḡb tKšZḡj RvM | cōPvKvḡj tRvqi fūlv Kvi Y m`uḡtK` bvbv cKvi Aevšli Kíbv Kiv nZ | ZLb gvbtj i aviv vQj cū\_exi kḡm-cōvḡmi Rb` tRvqi fūlv nq| cū\_exi kevM MḡḡYi mgq cūb dzj Dtv etj tRvqi nq Ges kḡm Z`vM Kivi mgq cūb tbtg hvq fūlv nq| wKšzeZḡvḡb wēAvbMḡb gḡb Kti b th, cū\_exi Dci P>`I mthp AvKIḡ Ges cū\_exi vbtRi MvZ I AveZḡbi Rb` mō tK> wFK kḡB tRvqi fūlv Rb` vqx | vbtRvqi fūlv Kvi Y Avḡj vPZ nj |

1. gnvKḡIḡ cḡve t cū\_exi mKj c`vḡ\_ḡ kḡB AvḡQ, ZvB GKwU AcivḡtK AvKIḡ KḡḡQ | GB AvKIḡYi biv gnvKḡIḡ GwU mḡúó th cū\_exi tK>`I cūbi Dcvi fvḡMi Dci Pḡ`i AvKIḡ kḡB i Zvi ZḡḡB tRvqi fūlv cāvḡ Kvi Y |
2. tK> wZK kḡB i cḡve t tKej gnvKḡIḡ kḡB i cḡve P>`I mthp tRvqiti i Rb` vḡq bq | NYḡkḡj cū\_exi cto th tK> wZK kḡB Drcbvḡnq, tRvqi Rb` Zvi AḡBKvsk `vqx |

GB AvKIḡ kḡB i cḡvḡB cū\_exi Dcvi w`vZ mij Avei Y cūbivḡ cū\_exi nḡZ wē`jvZ nḡZ cviḡQ nḡZ cviḡQ bv | wKšZgnvKḡIḡ kḡB i cḡve meḡ mgvb bq | vḡvveKfiteB th Mḡ ev DcMḡ hZ eo Zvi AvKIḡḡ kḡB ZZ AvvK | wKšZ`ḡZj eḡxK tctj AvKIḡ Kivevi ḡḡgZv nḡm cvq|

GB AvKIḡ kḡB i cḡvḡB cū\_exi Dcvi w`Z Zij Avei Y cūbivḡ cū\_ex nḡZ wēPjZ nḡZ cviḡQ bv | wKšZgnvKḡIḡ kḡB i cḡve meḡ mgvb bq | vḡvveKfiteB th Mḡ ev

DcMh hZ eo Zvi AvKI Ɔx kw<sup>3</sup> ZZ AwAK | wKšz`jtZ; ewx tctj AvKI Ɔ Kivevi ƆlgZv nvm cvq |

3.11.3 t cll\_ex cƆo G tRvqvi fllvi Rb` P>`<sup>a</sup> mthP cƆve

P>`<sup>a</sup> Ges mh<sup>o</sup> DfqB cll\_extK AvKI Ɔ Kti Ges Dftqi AvKI Ɔx kw<sup>3</sup> i cƆvte tRvqvi fllvi msNwZ nq | mh<sup>o</sup> P>`<sup>a</sup> Atc Ɔlv ` Ɔ tKwU lVU j Ɔ Ɔ Y eo | wKšz cll\_ex nƆZ Zv P>`<sup>a</sup> Atc Ɔlv wZbkZ Avnk Ɔ Y ` Ɔ Aew`Z | GRb` cll\_exi Dci mh<sup>o</sup> Atc Ɔlv PƆ` Ɔ AvKI Ɔ AƆbK tenk Ges Av` K KvhRi | mgM0 cll\_ex I Zvi c`v` mgƆni Dci mh<sup>o</sup> Atc Ɔlv PƆ` Ɔ KvhRix AvKI Ɔx kw<sup>3</sup> 2.5 Ɔ Y tenk | P>`<sup>a</sup> I mthP AvKI Ɔx kw<sup>3</sup> cll\_exi tK>` Ɔ Ɔ KVR Kti `vƆK | wKšz cmb Zij Zvi Dcwi fvtMi PƆ` Ɔ AvKI Ɔx kw<sup>3</sup> AwAK KvhRix nq | e`Z cmbi Dci B AvKI Ɔx cƆve AbƆZ nq | cll\_exi th Ask hLb PƆ` Ɔ wK m` ƆL Dcw`Z nq, P>`<sup>a</sup> cll\_exi tmB AskƆK ZLb meƆc Ɔlv tenk AvKI Ɔ Kti | Gw` K w` Ɔq Avevi KwB `j fvtMi PvbƆZ cmbi vnk i Dci AvKI Ɔ kw<sup>3</sup> i cƆve I KvhRwii Zv AwAK | GRb` cll\_exi th Ask hLb PƆ` Ɔ AvKI Ɔ kw<sup>3</sup> mePBƆZ tenk ZLb cll\_ex I PƆ` Ɔ AvKI Ɔ Yi Rb` I cƆoi Zij I nvj Kv cmb i vnk i Dci tK>` wZK kw<sup>3</sup> Atc Ɔlv tRvqvti i Rb` tenk `vqx | Kvi Y tK>` wZK kw<sup>3</sup> f` cƆoi PZ` ƆK KvhRi, wKšz PƆ` Ɔ AvKI Ɔx kw<sup>3</sup> cawbZ GKw` ƆK AwAK KvhRi |

mvi vsk

K P>`<sup>a</sup> I mh<sup>o</sup> f` cƆoi Rj I `j ƆK Avfivg AvKI Ɔ Ki Ɔ0 | GB KAvKI Ɔ bi cƆvte K f` cƆoi cmb cƆZw` bB `vb wƆkƆl dj DƆV Ges Ab`T tbtg hvq | cmbi GB dtj DVvƆK tRvqvi Avi tbtg hvl qvƆK fllvi etj |

K cƆZ tRvqvi fllvi mvt0 evƆiv NvUv mgƆqi e` eavƆb msNwZ nq

K P>`<sup>a</sup> Ges mthP AvKI Ɔ B tRvqvi fllvi cawb Kvi Y

K cll\_ex cƆo mh<sup>o</sup> Atc Ɔlv PƆ` Ɔ AvKI Ɔ ƆlgZv 2.5 Ɔ b tenk |

cvƆVvEi gj`vqb 3.11

1. tRvqvi fllvi mgq mgƆ Ɔ ga` fvtMi cmb i vnk KZUKzI Vv bigv Kti?
 

(K) K 1-3 tm.wg	(L) 1-3 dU
(M) 1-3 wglvi	(N) 1-3 MR
2. tRvqvi fllvi gj` Kvi Y tKvbiU?
 

(K) mthP AvKI Ɔ	(L) tK>` wZK etj
(M) tK>` wZK ej	(N) PƆ` Ɔ AvKI Ɔ
3. cll\_exi Dci mh<sup>o</sup> Atc Ɔlv PƆ` Ɔ AvKI Ɔ KZ` b tenk?
 

(K) 2.5	(L) 3.5
(M) 13	(N) 1.3

4. *cw\_exi* tKvb Astk Ptb`i AvKI<sup>9</sup> tenk cto?  
 (K) PZ<sup>9</sup> PK (L) tKtb`i w`tk  
 (M) *cw\_exi* th c<sup>9</sup> Ptb`i KvtQ\_vtk (N) *cw\_exi* th c<sup>9</sup> Ptb`i t`tk`i`  
 \_vtK

civ 3.12 t tRivqi fvlv wKi<sup>9</sup> msNmUZ nq Ges tRivqi fvlvi tkYx wefvm

Dt`ik`

GB civ tk<sup>9</sup>l Avcub

K tRivqi fvlv wKi<sup>9</sup> msNmUZ nq Zv e`vL`v Ki<sup>9</sup>z cri<sup>9</sup>teb

K wef<sup>9</sup>b<sup>9</sup>cKvi tRivqi fvlvi tkYx Dtj<sup>9</sup>l Kti Dnvt`i msAv Dtj<sup>9</sup>l Ki<sup>9</sup>z cri<sup>9</sup>teb

### 3.12.1 t tRivqi fvlv wKi<sup>9</sup> msNmUZ nq

tRivqi t P<sup>9</sup>`a l m<sup>9</sup>h<sup>9</sup> AvKI<sup>9</sup> l Ny<sup>9</sup>okij *cw\_exi* tK<sup>9</sup>`mZK kw<sup>9</sup>i c<sup>9</sup>f<sup>9</sup>vteB tRivqi fvlv msNmUZ nq| h<sup>9</sup>v` gtb Kiv nq, *cw\_exi* Dcvi fvlm me<sup>9</sup>a mgvb c<sup>9</sup>mbimki *9*viv AveZ| w<sup>9</sup>P<sup>9</sup> bs ntZ j`<sup>9</sup> Kily *cw\_ex* c<sup>9</sup>oiK *9*K<sup>9</sup>^`vb Ptb`i me<sup>9</sup>c<sup>9</sup>qv w<sup>9</sup>bKueZi<sup>9</sup> m<sup>9</sup>z<sup>9</sup>ivs Ptb`i AvKI<sup>9</sup> *9*K<sup>9</sup>^`vtbB me<sup>9</sup>c<sup>9</sup>qv tenk| c<sup>9</sup>mb Zij c`v<sup>9</sup>e<sup>9</sup>tj *cw\_exi* Kw<sup>9</sup>b Ask A<sup>9</sup>tc<sup>9</sup>qv mn<sup>9</sup>RB Ges tenk c<sup>9</sup>vi g<sup>9</sup>vY AvK<sup>9</sup>.n<sup>9</sup>te| KvtRB *9*K<sup>9</sup>^`vtbi c<sup>9</sup>mb dtj DVte Ges *9*M<sup>9</sup>^l *9*N<sup>9</sup>^`vb `w<sup>9</sup> ntZ c<sup>9</sup>mb AvK<sup>9</sup>.n<sup>9</sup>tq *9*K<sup>9</sup>^`vtbi Dc<sup>9</sup>i G<sup>9</sup>m Rgv n<sup>9</sup>te| ZLb *9*K<sup>9</sup>^`vtb tRivqi | GB tRivq<sup>9</sup>ti big gly` ev c<sup>9</sup>l<sup>9</sup>qv tRivqi | Avevi *9*K<sup>9</sup>^`vtbi wecixZ w`tk *9*L<sup>9</sup>^`vtbi th c<sup>9</sup>mb AvtQ| *cw\_exi* tK<sup>9</sup>`a A<sup>9</sup>tc<sup>9</sup>qv P<sup>9</sup>`a ntZ 6,400 wK.wg. AwaK `jeZ<sup>9</sup> m<sup>9</sup>z<sup>9</sup>ivs *cw\_exi* tK<sup>9</sup>`a `ti Ptb`i AvKI<sup>9</sup> *9*L<sup>9</sup>^`vtbi c<sup>9</sup>mbi Dc<sup>9</sup>ii AvKI<sup>9</sup> A<sup>9</sup>tc<sup>9</sup>qv AwaK| Avevi *9*L<sup>9</sup>^`vtbi c<sup>9</sup>mbi w<sup>9</sup>tbP th Kw<sup>9</sup>b `j fvlm AvtQ, Zv *cw\_exi* tKtb`i minZ `p<sup>9</sup>f<sup>9</sup>vte Ave<sup>9</sup> AvtQ| m<sup>9</sup>z<sup>9</sup>ivs *cw\_exi* tK<sup>9</sup>`a `tj Ptb`i AvKI<sup>9</sup> *9*L<sup>9</sup>^`vtbi c<sup>9</sup>mbi Dc<sup>9</sup>ii AvKI<sup>9</sup> A<sup>9</sup>tc<sup>9</sup>qv AwaK| Avevi *9*L<sup>9</sup>^`vtbi c<sup>9</sup>mbi w<sup>9</sup>tbP th Kw<sup>9</sup>b `j fvlm AvtQ, Zv *cw\_exi* tKtb`i minZ m<sup>9</sup>y<sup>9</sup> f<sup>9</sup>vte Ave<sup>9</sup> AvtQ| m<sup>9</sup>z<sup>9</sup>ivs Zvi Dci Ptb`i AvKI<sup>9</sup> tK<sup>9</sup>`a `tj i AvKI<sup>9</sup>Yi *cw\_exi* Kw<sup>9</sup>b Astki gvSKvtb th d<sup>9</sup>uk n<sup>9</sup>te, M l N `vb ntZ wKQycmb G<sup>9</sup>m tmB d<sup>9</sup>uk Rg<sup>9</sup>te| GQvor *9*L<sup>9</sup>^`vtbi c<sup>9</sup>mb f<sup>9</sup>vMi Dci *cw\_exi* gv<sup>9</sup>KL<sup>9</sup> kw<sup>9</sup>i c<sup>9</sup>f<sup>9</sup>vte K<sup>9</sup>g hvq Ges tK<sup>9</sup>`mZM kw<sup>9</sup>i c<sup>9</sup>f<sup>9</sup>vte e<sup>9</sup>v<sup>9</sup> c<sup>9</sup>vq| dtj tK<sup>9</sup>`mZK kw<sup>9</sup>i c<sup>9</sup>f<sup>9</sup>vte Pvi cvk<sup>9</sup>,<sup>9</sup> c<sup>9</sup>vi i<sup>9</sup>wk *9*L<sup>9</sup>^`vtb c<sup>9</sup>f<sup>9</sup>vnZ n<sup>9</sup>tq tRivq<sup>9</sup>ti m<sup>9</sup>o Kti, GB tRivq<sup>9</sup>ti big tMSY ev c<sup>9</sup>iv<sup>9</sup>qv tRivqi |

fvlv t *cw\_ex* tgvU c<sup>9</sup>mbimki c<sup>9</sup>vi gvY me<sup>9</sup> mgvb bq| hLb *cw\_exi* GKcv<sup>9</sup>tk<sup>9</sup>gy` tRivqi Ges Aci cv<sup>9</sup>tk<sup>9</sup>tMSY tRivqi nq, ZLb GB `B tRivq<sup>9</sup>ti ga<sup>9</sup>eZ<sup>9</sup>mg<sup>9</sup>tkvY Aew<sup>9</sup>Z Ask<sup>9</sup>q ntZ c<sup>9</sup>mbimk m<sup>9</sup>ti hvq etj H `B `vtb ZLb fvlv nq|

*cw\_ex* AveZ<sup>9</sup> *cw\_exi* th Ask Ptb`i m<sup>9</sup>g<sup>9</sup>l Av<sup>9</sup>m tmB Ask Ges Zvi wecixZ Astk mg<sup>9</sup>ti c<sup>9</sup>mb dtj Dtj tRivqi nq| G<sup>9</sup>`i ga<sup>9</sup>eZ<sup>9</sup>mg<sup>9</sup>tkvY Aew<sup>9</sup>Z `vb<sup>9</sup>l<sup>9</sup>q c<sup>9</sup>mb tb<sup>9</sup>g fvlv nq| m<sup>9</sup>z<sup>9</sup>ivs GKB `vtb c<sup>9</sup>l<sup>9</sup>Zw`b `9vi tRivq i l `9vi fvlv nq| tRivqi l fvlv

c0Z`tki w`wZKvj 6 NsUv 13 ug. c0q| Dctiv<sup>3</sup> eY0v ntZ tRvqvi fWlvtk ub`nj uLZ tkYvtZ wef<sup>3</sup> Kiv hvq|

tRvqvi fWlvi tkYvefVM

K. gY` tRvqvi

(L) tMSY tRvqvi

cvfVvEi gj`vqb 3.12

1. GKwU `vtb `nbK KZevi tRvqvi nq?

(K) GKevi

(L) `y0vi

(M) wZbevi

(N) Pri evi

2. tKvb `vtb `nbK KZevi fWlv nq?

(K) Pri evi

(L) wZbevi

(M) `y0vi

(N) GKevi

3. c0Z`K tRvqvi I fWlvi w`wZKvj KZ?

(K) 24 NsUv

(L) 12 NsUv

(M) 6 NsUv 13 ugubU

(N) 13 NsUv 6 ugubU

cvV 3.13 t gvb`j i A\_w0wZK w`wqvKj vtci Dci tRvqvi fWlvi cfve

Dt`k`

GB cvV tk`l Avci0b

K gvb`j i A\_w0wZK w`wqvKj vtci Dci tRvqvi fWlvi cfve eY0v Ki`Z cvi`eb

K tRvqvi fWlvi Dt`j L`thvM` cfve cto ZLb `vb mg`ni big ej`Z cvi`eb

3.13.1 t tRvqvi fWlvi cfve

gvb`j i A\_w0wZK w`wqvKj vtci Dci tRvqvi fWlvi ht\_0 cfve itqt0| `j fv`Mi Dcti cmbi`nk`Z Ges e`emvq emYtR`i Dcti tRvqvi fWlvi ht\_0 fvgKv Avt0| Gi dtj gvb`y bivr`fite DcKZ.n`tg \_vtK| ubt`0tRvqvi fWlvi cfve, tjv mg`j Ges Kzlj AvKvti Dt`j L`Kiv nj |

mg`j t (1) tRvqvti mgq cmb e`x cvq etj mg`Mvgx Rvnt`Ri ct`l b`x e`ti c0etk mg`av nq| Avevi fWlvi tm`tZi m`1/2 H Rvnt`R Avqv`fmi mg`y`Gtm cto| P`EM0g, Kj KvZv, j Ub, cfwZ. b`x e`ti GB ifc tRvqvti Uvb I cmb e`xi Rb` e`ti Rvnt`R c0ek Ges fWlvq Rvnt`R emni Kiv nq|

(2) tRvqvi fWlvi Rb` b`xmg`ni cmb wbg` \_vtK| `nbK `0vi tRvqvi fWlv nI qvi dtj b`xtZ cWZZ AveR0w` Ges b`xi tgvnbvq cvj, tjv ub`0nkZ ntj b`xi wbg` nq|

(3) tRvqvi fWlvi Rb" cwj gvi cto b`xi gly eÜ ntZ cvti br| dtj tbš Pj vPťj i thvM" nq| Bsj "tÜi tUgm b`xtZ tRvqvi fWlvi `iY cwj RgťZ cvti br| etj B me"v tbš-erubťhVM" \_vťK|

(4) tRvqvi fWlvi tmťZi Rb" b`xLvZ Mfxi nq| Aweivg tRvqvi fWlvi Uvťb cwj gvlU cto b`xi gly eÜ ntZ cvti br| jeYv³Kvi dtj kxZ cāvrb t`ťki b`xi cwb Rťg br|

(5) tRvqvi kiv³ inmvťel e"eüZ nq| cll\_xi AťbK Aťk weivU AvKvťi i Rj vavb vbg" Kti tRvqvti i mgq cwbťZ fivZ"Kti ivLv nq| fWlvi mgq H cwb miycť\_ vbtP vbmZ Kti cwb we`y DrcbafKiv nq|

(6) b`xi tRvqvi cwb tmťPi mrvqZv Kti| AťbK b`xi cvk,ntZ Lbb Kiv Lvťj tRvqvti i cwb AvUvKťq RvťZ tmP t`qv nq|

(7) tRvqvi fWlvi dtj tbš-Pj vPj Z\_v e"emv-emvťR"i weťkl mjev nq| tRvqvti i mgq Zv I Zvi Af`š"ti cwb Avak nq etj eo mg`Mvgx RvrvťRi cť" b`xtZ c"ek Kiv mjev nq|

Kzlj t (1) tRvqvi fWlvi Rťb" mgtj" jeYv³ cwb b`xi gta" v"ťq t`ťki Af`š"-ti c"ek Kti etj b`xi cwb AvakZi jeYv³ nq| jeYv³ cwb Kul. KvťRi Rb" AbgťhVMx|

(2) tKvb tKvb b`xtZ tRvqvti i mgq evb WvKvi dtj AťbK mgq tbšKv, j Ā cťvZ. Wze hvq ev "vZM" nq Ges b`xi cvk,Z"Gj vKvi Rvbgťj i cťvZ. "vZmvab nq|

mvivsk

K gvbťj i A\_ "vZK vlvqvKj vťci Dci tRvqvi fWlvi , iZc"v" cťve itqťQ|

K tRvqvi-fWlvi Rťb" b`xi cwb vbg" \_vťK

K tRvqvi-fWlvi mgtj Ges Kzlj DfqB we`gvb itqťQ| Zte mgtj i Zzlvq Kzlj bMY"|

cvťVvEi gj"vqb 3.13

1. tRvqvi fWlvi dtj tKvb b`xi tgvnbvq cwj RgťZ cvti br?

(K) tUgm

(L) I Rvi

(M) ivBb

(N) vSj vg

2. tRvqvi fWlvi cťvte b`xtZ MťĪi Ae"v tKgb nq?

(K) fivU

(L) wevj b nq

(M) Mfxi nq

(N) AcvievZ" \_vťK

3. tRvqvi fWlvi dtj b`xtZ jeYv³ cwb c"ek Kiti tKvbvU Dci gvivZK cťve cto?

(K) tbš-Pj vPťj i Dci

(L) vki Kvi Lvvi Dci

(M) ebfvgi Dci

(N) Kul. KvťRi Dci

cvV 3.14 t mg~<sup>a</sup>tm̄Z Gi KviY I djvdj

Df'ik

GB cvV tk̄l Avciub

K mg~<sup>a</sup>tm̄Zi msÁv ej tZ cvi teb

K mg~<sup>a</sup>tm̄Zi KviY, t̄jv ej tZ cvi teb

K mg~<sup>a</sup>tm̄Zi djvdj eY<sup>0</sup>v Ki tZ cvi teb

### 3.14.1 t mg~<sup>a</sup>tm̄Zi msÁv

Avq̄t` i GB c<sub>w</sub>exi wZb PZz<sup>0</sup>sk c<sub>w</sub>b | c<sub>w</sub>extZ itq̄Q A t̄bK m<sub>v</sub>Mi g<sub>v</sub>m<sub>v</sub>Mi | wKšz  
GB mḡy i c<sub>w</sub>b KLbI GK<sup>-</sup>v<sub>b</sub> w<sup>-</sup>i v<sub>t</sub>K b<sub>v</sub> | Z<sub>v</sub> me<sup>0</sup>v Pj vPj Ki t̄Q | evq̄y M<sub>v</sub>Zi  
ḡtZ<sub>v</sub> mḡy i c<sub>w</sub>bI GK<sup>-</sup>v<sub>b</sub> n̄tZ Ab<sup>-</sup>v<sub>b</sub> c<sub>v</sub>vnZ n̄t<sup>0</sup>Q | mg~<sup>a</sup>tm̄Zi c<sub>v</sub>ve b<sub>v</sub>b<sub>v</sub>f<sub>v</sub>te  
t`L tZ cvI q<sub>v</sub> hvq | w<sup>0</sup>f<sub>v</sub>b<sup>0</sup>mg~<sup>a</sup> | g<sub>v</sub>t̄ k mḡy<sub>v</sub>ni DcKj w<sup>0</sup>f<sub>v</sub>b<sup>0</sup>D<sup>0</sup> | kxZj tm̄Zi  
c<sub>v</sub>ve j 9 | Kiv nq | GB mKj mg~<sup>a</sup>tm̄Z, t̄jv ch<sup>0</sup>e 9Y Kti g<sub>v</sub>b<sub>y</sub> Z<sub>v</sub>t` i t̄K b<sub>v</sub>b<sub>v</sub>f<sub>v</sub>te  
e<sup>-</sup>envi Ki t̄Q | t` t̄ki Rj evq̄y emb<sup>0</sup>tR<sup>-</sup>i Dci mg~<sup>a</sup>tm̄Zi c<sub>v</sub>ve AZ<sup>-</sup>w<sup>0</sup>aK |  
msÁv t mḡy i c<sub>w</sub>b me<sup>0</sup>vB Pj vPj Ki t̄Q | evq̄y M<sub>v</sub>Zi ḡtZ<sub>v</sub> mḡy i c<sub>w</sub>bI mḡy i  
GK<sup>-</sup>v<sub>b</sub> n̄tZ Ab<sup>-</sup>v<sub>b</sub> c<sub>v</sub>vnZ n̄t<sup>0</sup>Q | mḡy i GK<sup>-</sup>v<sub>b</sub> n̄tZ Ab<sup>-</sup>v<sub>b</sub> mḡy i c<sub>w</sub>bI  
w<sup>0</sup>v<sup>0</sup> | w<sup>0</sup>bq<sup>0</sup>gZ mg~<sup>a</sup>tm̄Z etj |

3.14.2 t mg~<sup>a</sup> tm̄Zi KviY t w<sup>0</sup>f<sub>v</sub>b<sup>0</sup>e f<sub>v</sub>te mḡy i Dcwi f<sub>v</sub>t̄M Rj i<sub>v</sub>ni mgZ<sub>v</sub>i  
e<sup>-</sup>wZ<sup>0</sup>μg N̄tU | w<sup>0</sup>Z<sub>v</sub>šB v<sup>-</sup>f<sub>v</sub>w<sup>0</sup>eK w<sup>0</sup>bq<sup>0</sup>g Rj i<sub>v</sub>ni Dcwi f<sub>v</sub>t̄M t̄mB mgZ<sub>v</sub>we<sup>0</sup>v<sub>t</sub>bi Rb<sup>-</sup>  
Rj i<sub>v</sub>ni wKQ<sup>0</sup>v Ask mḡy i GK<sup>-</sup>v<sub>b</sub> n̄tZ Ab<sup>-</sup>v<sub>b</sub> c<sub>v</sub>vnZ nq | th mKj  
Kvi t̄Y mg~<sup>a</sup>tm̄Zi D<sup>0</sup>m<sup>0</sup>e nq w<sup>0</sup>b<sup>0</sup>t<sup>0</sup>z<sup>0</sup>v<sup>0</sup>t` i mḡt̄Ü ms<sup>0</sup>9<sup>0</sup>B Av<sub>t</sub>j vP<sub>b</sub>v Kiv nj |

1. evq̄yc<sub>v</sub>vn t w<sup>0</sup>t̄kIÁM̄t̄Yi ḡtZ evq̄z<sub>v</sub>vnB mg~<sup>a</sup> tm̄Zi c<sub>v</sub>vb KviY | c<sub>w</sub>ex  
AveZ<sup>0</sup>bi dtj f<sub>-</sub>c<sub>t̄</sub>ô KZK, t̄jv w<sup>0</sup>bqZ evq̄z<sub>v</sub>vn<sup>-</sup>ni m<sup>0</sup>ó nq | GB w<sup>0</sup>bqZ evq̄z<sub>v</sub>vn, t̄jv  
t̄K<sub>v</sub>b b<sub>v</sub> t̄K<sub>v</sub>b w<sup>0</sup>v<sup>0</sup> c<sub>t̄</sub> c<sub>v</sub>vnZ nq | mḡy i Dci w<sup>0</sup>t̄q evq̄yc<sub>v</sub>vnZ nevi mgq GB  
evq̄z<sub>v</sub>vn, t̄jv t̄K<sub>v</sub>b b<sub>v</sub> t̄K<sub>v</sub>b w<sup>0</sup>v<sup>0</sup> c<sub>t̄</sub> c<sub>v</sub>vnZ nq | mḡy i Dci w<sup>0</sup>t̄q evq̄yc<sub>v</sub>vnZ  
nevi mgq GB evq̄y<sub>t</sub>vi NI<sup>0</sup>Y m<sub>v</sub>M̄t̄i Dc<sub>t̄</sub>i t̄i Rj i<sub>v</sub>ni GK<sup>-</sup>v<sub>b</sub> n̄tZ Ab<sup>-</sup>v<sub>b</sub> c<sub>v</sub>vnZ nq | c<sub>v</sub>vb c<sub>v</sub>vb mg~<sup>a</sup>tm̄Z, t̄jv t̄K f<sub>-</sub>c<sub>t̄</sub>ô i c<sub>v</sub>vb c<sub>v</sub>vb evq̄yc<sub>v</sub>vn, t̄jv i  
c<sub>-</sub> AbyriY Ki t̄Z t`Lv hvq | Avq̄bevq̄yc<sub>v</sub>vnZ G<sub>j</sub>vK<sub>v</sub>q tm̄Z c<sub>w</sub>0g n̄tZ ce<sup>0</sup>t̄K  
c<sub>v</sub>vnZ nq | f<sub>v</sub>iZ g<sub>v</sub>m<sub>v</sub>M̄t̄i FZzc<sub>w</sub>i eZ<sup>0</sup>bi m<sub>v</sub>t<sub>-</sub> m<sub>v</sub>t<sub>-</sub> hLb t<sub>g</sub>s<sub>m</sub>g<sub>x</sub> evq̄z<sub>v</sub>vn<sup>-</sup>ni M<sub>v</sub>Z  
c<sub>w</sub>i eZ<sup>0</sup> nq ZLb Z<sub>-</sub>vq mg~<sup>a</sup>tm̄Zi c<sub>w</sub>i eZ<sup>0</sup> n̄tq evq̄y M<sub>v</sub>Zc<sub>-</sub> AbyriY Kti | t̄mRb<sup>-</sup>  
evq̄z<sub>v</sub>vn<sup>-</sup>ni g<sub>v</sub>b<sub>v</sub>P<sub>t̄</sub>i m<sub>v</sub>nZ mg~<sup>a</sup>tm̄Zi g<sub>v</sub>b<sub>v</sub>P<sub>t̄</sub>i Ace<sup>0</sup>m<sub>v</sub>g<sub>Á</sub>m<sup>-</sup> t`Lv hvq |

2. D<sup>0</sup>z<sub>v</sub>i Z<sub>v</sub>i Z<sub>g</sub> t mḡy i w<sup>0</sup>f<sub>v</sub>b<sup>0</sup>e A<sub>t̄</sub>k D<sup>0</sup>E<sub>v</sub>t̄ci Z<sub>v</sub>i Z<sub>g</sub> mg~<sup>a</sup>tm̄Zi Ab<sup>-</sup>Z<sub>g</sub> KviY |  
w<sup>0</sup>i 9<sub>x</sub>q A<sub>Á</sub>t̄j m<sup>0</sup>h<sup>0</sup>P<sub>ik</sub> t̄m<sub>v</sub>R<sub>v</sub>t̄m<sub>v</sub>R Ges t<sub>g</sub>i y<sub>c</sub>0 t̄k Z<sub>x</sub>h<sup>0</sup>R f<sub>v</sub>te c<sub>t̄</sub>o | dtj t<sub>g</sub>i y<sub>c</sub>0 k  
A<sub>t̄</sub>c 9<sub>v</sub> w<sup>0</sup>i 9<sub>x</sub>q A<sub>Á</sub>t̄j mḡy i c<sub>w</sub>b A<sub>v</sub>aK D<sup>0</sup>E<sub>v</sub>t̄c D<sup>0</sup>E<sub>B</sub> n̄tq AvqZ<sub>t̄</sub>b e<sub>w</sub>x<sub>c</sub>0<sub>B</sub> |  
n<sub>v</sub>j K<sub>v</sub> Ges Z<sub>v</sub>i N<sub>b</sub>Z<sub>i</sub> K<sub>t̄</sub>g hvq | wKšz t<sub>g</sub>i y<sub>c</sub>0 t̄k m<sup>0</sup>s<sup>0</sup>K<sub>v</sub>P<sub>t̄</sub>bi dtj c<sub>w</sub>b i<sub>v</sub>ni f<sub>v</sub>i<sub>x</sub> nq |

ubi ƒlxq AĀtj i Dò I nij Kv cmbivmki mg<sup>3</sup>cđô DPyntq tftm DđV Ges kxZj tgiy cđ`tki w`tk Dò cđ cĕvn ev eint tmZ (Hot Surface Currendt) ifc mgj`i Dcwi fVM w`tq cĕvnZ nq| ubi ƒ cđ`tki GB iY`vbcjY Kievi Rb` tgiyAĀtj i kxZj I fvi x cmb kxZj Aštcĕvn (Cold Under Current) ifc ubi ƒlxq AĀtj i w`tk cĕvnZ nq| GđK cmbi Őcwi Pj b<sup>3</sup>etj |

Dò mg<sup>3</sup>tmZ kxZj AĀtj i w`tk cĕvnZ nevi mgq Zvi cmbivmki μgk AwaK kxZj ntq v`tk| tm Rb` Zv kxZj cmbi minZ axti axti ugtk fvi x nq Ges Wte hvq| cƒlvšti kxZj tmZ ubi ƒlxq cđ`tki w`tk cĕvnZ nevi mgq Zvi cmbivmki μgk Dò I nij Kv nq| tm Rb` gŪtj tcšQvi ci tm v`tbi tmZi minZ ugtk cđ cĕvtn cwi YZ n| GRb` ubi ƒlxq cđ`tki Dci ntZ wbtP Ges tgiyAĀtj wbtP ntZ Dctii w`tk cmb cĕvnZ nq| dtj GB `j v`tbi Dci wbtP (Up and down) cĕvn mwp nq| GB cĕvntK cwi Pj b tmZ (Convection Current) bđtg AwfwnZ Kiv nq|

3.ev`úxfetbi Zvi Zg` t Dò gŪtj i mgj`i cmb AwaK Dĕvc jvf Kti cđj cwi gvtY evt`ú cwi bZ nq| wKšbwmZkxZvò I kxZj AĀtj i cmb tmiƒc Dĕvc cvq bv etj AđcƒvKZ.Kg ev`úxfZ nq| Dĕvtci cv`K`i Dci ev`úxfetib Zvi Zg` wbtP Kti | mgj`i Kvb Astk DòZvi Rb` ev`úxfetb tewk ntj Rj i vmi mgZv i ƒlv Kivi Rb` Pwi w`K ntZ kxZj tmZ tmw`K cĕvnZ nq| GBifc ev`úxfetbi Zi Ztg`i Rb` mg<sup>3</sup>tmZi Drcwĕ nq| ubi ƒlxq I μvšlq AĀtj th mg`fmMi cđq Pri w`tk `j Őviv tewZ Ges cđvj x Őviv gnmvMi ev Aci tKvb mvmMti i minZ mshj ev`úxfetibi Zvi Zg` ekZ mntRB mKj mvmMti i ci`úti gta` tmZ Drcbrenq| fga`mvmMti th cwgvY cmb ev`úxfetj nq b`x ev ewó cmb tm Afve ciY KiZ cvti bv| tmRb` wRetĕvi cđvj x w`tq GKwU cđ cĕvn AvUj wUK gnmvMi ntZ fga`mvmMti i w`tk AMđi nq| ewĕK mvmMti ev`úxfetbđnZzcmb nwm, b`x AwbZ cmb Ađcƒv Kg etj Zv ntZ cđ cĕvn Dĕi mvmMti Ges Zvi mvmMti ntZ Aštcĕvn ewĕK mvmMti Avtm|

4.jeYv<sup>3</sup>Zvi Zvi Zg` t AwaK jeYv<sup>3</sup> cmb, Dò I Kg jeYv<sup>3</sup> Ađcƒv Nb I fvi x etj Zvi Pvc tewk| GRb` AwaK jeYv<sup>3</sup> cmb wbtPi w`tk tbtg hvq Ges jNzi I AđcƒvKZ.jeYv<sup>3</sup> cmb Dctii w`tk DđV Avtm| Giƒc DaY`tmZ Ges wbtmZi mwp nq| ev`úxfetb ekZ tKvb mvmMti i cmb Ktg tmZ Zvi jeYv<sup>3</sup>Zv ewx cvq| Zv`i AwaK jeYv<sup>3</sup> mg<sup>3</sup>ntZ Aí jeYv<sup>3</sup> mgj`i w`tk Aštcĕvn Ges Aí jeYv<sup>3</sup> etj AvUj wUK gnmvMi I Kò. mvmMti ntZ Kg jeYv<sup>3</sup> cmb cđ cĕvniƒc fga`mvmMti i w`tk cĕvnZ nq|

5.f-fvđMi Ae`vb t mg<sup>3</sup>tmZ cĕvnZ nei mgq Zvi m`šL Zvi tKvb `j fVM cotj tmZi MvZ cwi ewZ nq| ubi ƒ cđ`tk tKvb `j fVM bv v`tkj ubi ƒlxq tmZ eivei cwiđg w`tk Pwvj Z ntZv| wKšbGB tmZ AvUj wUK gnmvMti i ewRtj i ceđcKtj, cđvšl gnmvMti cte`fvi Zxq Őxc cđ Ges fvi Z gnmvMi AwvdKvi `wƒY cte`

gṽ vbMv̄-vi0xtc evav tctq `B ev wZb fvtM wef<sup>3</sup> ntq DĒi I `wŋY w`tk tetK cĕvvnZ nq|

6.cw\_exi AvyK MwZ t cw\_ex wR Aŋŋi Dci cwōg ntZ ceŋ`tk NjŋQ| cw\_exi GB AvyK MwZi dtj mgj̄ i cwōg ntZ ceŋ`tk cĕvvnZ ntq mg<sup>~a</sup>tm̄Zi mwō Kti| tdt̄t̄j i mŷ Abŷvqx GB tm̄Z DĒi tMj vta<sup>o</sup>Ww w`tk Ges `wŋY tMj vta<sup>o</sup> evgw`tk tetK Pŋj |

7| MfxiZv wmwte DòZvi `elg` nq| Aí Mfxi `v̄bi cwōb mn̄Ri DĒB ntq Dct̄ii DŋV Av̄m Ges kxZj cwōb w̄bP tbtg hvq| GB iŋc Dav̄wvqx I w̄bAv̄vqx tm̄Zi mgj̄<sup>a</sup>wbqwgZ cĕv̄ni mwō nq|

3.14.3 t mg<sup>~a</sup>tm̄Zi w`K

cw\_exi wewfbwAstki mwMi gnvm̄M̄ti cwōbi mgZv i ŋvi Rb` Ges wemZ evqycĕv̄ni dtj th mg<sup>~a</sup> tm̄Zi D<sup>m̄e</sup> nq Zv cōvbZ (1) evqycĕv̄ni w`K AbŷiY Kti| DògŪt̄j Avq̄b evqj̄ w`K AbŷiY mg<sup>~a</sup> tm̄Z DĒi ce<sup>o</sup>ev `wŋY cwōg ev DZZi cwōg w`tk cĕvvnZ nq| (2) cw\_ex AveZŋbi dtj mg<sup>~a</sup>tm̄Z evqycĕv̄ni b<sup>vq</sup> DĒi tMj vta<sup>o</sup>Ww w`tk Ges `wŋY tMj vta<sup>o</sup>evgw`tk tetK hvq| (3) Dò tm̄Z mgj̄ i Dcwi fvtM w`tq cōcĕv̄niŋc Ges kxZj tm̄Z Dcwi fvtM cwōb w̄bki wKQywbPyw`tq Astcĕv̄niŋc cĕvvnZ nq| (4) cw\_gta` evav tctj mg<sup>~a</sup> tm̄Z w`K cw̄eZŋ Kti| (5) Mfxi mgj̄<sup>a</sup>tm̄Zi teM wKQy ŋ|

3.14.4 t ewwŋR̄i Dci mg<sup>~a</sup>tm̄Zi cĕv̄e

1. wnggŪt̄j Aew<sup>-</sup>Z ev bvwZkxtZvò AĀt̄j i kxZj Zi Astk Aew<sup>-</sup>Z mgj̄ i cwōb kxZKv̄t̄j Rŋg hvq| cw\_exi AŋbK t`tk eQt̄ii tenki fvtM mq mgj̄ i cwōb Rŋg \_v̄t̄K| wKšzmgj̄ i Hiŋc Astk Dò tm̄Z cĕvvnZ ntj Dò tm̄Zi cĕv̄te Z\_vq kxZKv̄t̄j I eid RgŋZ cv̄ti bv| Dò DĒi AvUj wUK tm̄Zi cĕv̄te BDŋiv̄t̄ci DĒi cwōg v̄t̄k bi lŋqi DĒt̄i l mwiv ermi Rv̄vR Pj vPj Kit̄Z cv̄ti| cŋv̄šŋi Zvi `wŋŋY eww̄K mwMi cwōb Rŋg hvq| Avevi bvwZkxtZvò AĀt̄j i D<sup>pzi</sup> Astki mgj̄<sup>a</sup> kxZj tm̄Z cĕvvnZ ntj H kxZj tm̄Zi cĕv̄te tm̄ v̄bi cwōb w̄k Rg thŋZ cv̄ti| Dò Rvcv̄b tm̄Zi cĕv̄te KvbWwi cwōg DcKj̄ I f̄v̄Kŋvi eidgŷ \_v̄t̄K| wKš-z kxZj j`v̄w̄vi tm̄Zi cĕv̄te KvbWwi ce<sup>o</sup>DcKŋj Ges kxZj tew̄s tm̄Zi cĕv̄te cŪ<sup>3</sup>Y tm̄w̄f̄t̄qZ BDw̄bq̄bi ce<sup>o</sup>DcKj̄ ei dv<sup>o</sup>Qb̄w̄q|

K mgj̄ i GK `vb ntZ Ab<sup>-</sup>v̄b mgj̄ i cwōbi w̄b`R I w̄bqwgZ Pj vPj i MwZtk mg<sup>~a</sup>tm̄Z etj |

K evqycĕv̄n DòZvi ZviZg`, ev`úxfet̄bi ZviZg`, jeYv<sup>3</sup>vi ZviZg`, f<sub>-</sub> fvtMi Ae<sup>-</sup>vb cw\_exi AvyKMwZ I MfxiZvi Kviŋb mg<sup>~a</sup>tm̄Zi DrcwĒ nq|

K w̄t̄kl w̄t̄kl w̄bq̄t̄g evqycĕv̄n AbŷiY mg<sup>~a</sup>tm̄Zi w`K wPyZ nq|

K Rj evqj̄ Dci I mg<sup>~a</sup>tm̄Zi cĕv̄e iŋt̄Q|

K e'emv emvYtR'i Dci mg~<sup>a</sup>tm#Zi c#ve itq#Q|

cv#VvEi gj'vqb 3.14

1. Avqberqyc#vnnZ Gj vKvq mg~<sup>a</sup>tm#Z tKvbw #K c#vnnZ nq?

(K) DEi w K t\_#K `wY w #K (L) ce<sup>q</sup>\_#K c#og

(M) `wY t\_#K DEi w #K (N) c#og t\_#K ce<sup>q</sup> #K

2. c#\_exi AveZ#bi dtj DEi tMj vta<sup>q</sup>Kvb w #K tet#K hvq|

(K) Wbw #K (L) evgw #K

(M) DEi w #K (N) `wY w #K

3. D# tm#Z mgj' Dcwi fvM w #q Avi kxZj tm#Z DWwi fvM c#bi ivnki wKQy  
wbPyw #q c#vnnZ nqt Gifc tm#Z#K wK etj ?

(K) D# tm#Z (L) kxZj tm#Z

(M) cwi Pj b tm#Z (N) cwi enb tm#Z

4. mg~<sup>a</sup>tm#Zi teM tKv\_vq Zj'bvgyKfvte tewk nq?

(K) DcKtj (L) Mfxi mgj'<sup>a</sup>

(M) DEi tgi #Z (N) `wY tgi #Z

5. tKvb mgj'<sup>a</sup>tm#Zi c#vte fv`#vi I KvbWwi c#og DcKj eidg#\_#K?

(K) tel#tj j v tm#Z (L) K'vj ix tm#Z

(M) Rvcvb tm#Z (N) nvg#evi tm#Z

cvV 3.15 t AvUj wUK gnvmvMiqx tm#Zi eY#v

D#i'k

GB cvV tk#l Avc#b

K AvUj wUK gnvmvM#i i cwi wPwZ w #Z cvi #eb

K AvUj wUK gnvmvMiqx c#vb c#vb tm#Z ,tj vi big Dtj # Ki #Z cvi #eb

K AvUj wUK gnvmvMiqx tm#Z ,tj vi eY#v w #Z cvi #eb

K wP# G#K AvUj wUK gnvmvMiqx tm#Z ,tj v t`Lv#Z cvi #eb

3.15.1 t AvUj wUK gnvmvM#i i cwi wPwZ

Ae`vb t ce<sup>q</sup>DcKtj BD#ivc I AvvdKv Ges c#og DcKtj DEi I `wY Av#gwi Kvq

Aew`Z| wbi #t#i Lv AvUj wUK gnvmvM#i i DEi I `wY Astk wef<sup>3</sup> Kti #Q|

AvqZb -AvUj vUK gnmvMti i AvqZb c0q 8 tKvU 15 j 9 eMkKtj vqUvi AvqZtb  
GvU cU\_xi wZxq epEg gnmvMi |

Mfxi Zv t AvUj vUK gnmvMti i Mo Mfxi Zv 12,000 dU,  
DcKj t fMæDfQ DcKz e`i teuk, 0xc Atc9vKZ.Kg|  
emYwR`K ,iZi t cU\_xfZ th cUvU gnmvMi itqQ Zb#a" AvUj vUK gnmvMti  
emYwR`K ,iZi mePfq teuk| miveQiB GB gnmvMti i Dci w`tq mivj K RvrvR  
Pj vPj Kti |

3,15,2 t AvUj vUK gnmvMti i c0vb c0vb tmZ t AvUj vUK gnmvMti i c0vb  
c0vb tmZ ,tj v nj |

1. te½tqj tmZ
2. DEi l `w9Y ubi 9ixq tmZ
3. emRj tmZ
4. DcgnvMi xq tmZ
5. j veWvi tmZ
6. Ktgi tmZ
7. dKj vU tmZ
8. cUog M0Yj vU tmZ
9. K vYvi x tmZ
10. wWvY tmZ wPÎ

3.15.3 t AvUj vUK gnmvMti xq tmZ mgfni eY0v  
c0vb c0vb tmZ ,tj vi eY0v t l qv nj t (1) te½tqj tmZ t `w9Y gnmvMti ntZ  
kxZj Ktgi K tmZ c0vrvZ nq| GB tmZ cUogv evqj cUvtei gta" Gtm cte9etK

hvq| cti AvdKvi `wqY cuog DcKtj cZnZ ntq DEi telstaj v tmZ bvtg AMhi ntq AvUj wUK G cek Kti |

(2) DEi I `wqY ubi qxq tmZ t DEi ce@I `wqY ce@Avqi evqj cfrte Ges cu\_xi AveZbi Rb AvUj wUK gnvmMti i ubi qxq AAjt `yU Dò tmZi DrcuE nq| GB tmZ òqtK DEi I `wqY ubi qxq tmZ etj |

(3) eRj tmZ t telstaj v tmZ `wqY ce@Avqb evqj cfrte cuog tetK `wqY ubi qxq tmZi minZ vgtk hvq| GB wuj Z tmZ cuog wQy AMhi ntq `wqY Avtgi Kvi tmUiK Ašitc cZnZ ntq DEi I `wqY kvLv uef<sup>3</sup> nq| `wqY kvLv eRj tmZ (Dò) bvtg eRtji ce@DcKtj eivei AMhi nq Ges cqvq Ktgiy tmZi minZ vgtk hvq|

(4) DcmMixq tmZ t Dctiv<sup>3</sup> `wqY ubi qxq tmZi DEi kvLv `wqY Avtgi Kvq DEi ce@DcKtj ati AMhi nq| cti GuU a`wi ueqv mvmMti cek Kti DEi ubi qxq tmZi `wqY kvLv minZ wuj Z nq| GB wuj Z tmZ `wqY tgv tKv DcmMti cek Kti | tgv tKv DcmMti DrcuE etj GB tmZi bvg DcmMixq tmZ| GuU msKxY@Kwi Wv cYj xi ga` w`q tetM cewnZ ntq DEi ubi qxq tmZi DEi kvLv minZ wuj Z nq| GB `vrb Gi MvZ Nsvi còq wKtj wglvi Rti DòZv còq 27.2 tm.tMò Ges eY@Mvp bxj | GB wuj Z tmZ DEi c@tK t\_tK cewnZ ntq ga` AvUj wUK wZbU kvLv uef<sup>3</sup> nq| h\_v-

(K) Gi cãv I cã`l kvLv Dò tmZi t cewnZ uewK òccx I DEi cuog BDti tci cuog cvk`w`q bil tqi DEti tkl nq| GtK DEi I AvUj wUK tmZ etj | Bv BDti tci kxZj DEi cuog DcKtj tK Dò i vL |

(L) `wqY kvLv cZvtj i DcKtj cZnZ ntq còtg `wqY I cti cuog tetK DEi ubi qxq tmZi m½ wuj Z nq| GtK K`vbix tmZ etj | GuU kxZj tmZ| GB Rj evZP Af`šti tKv tmZ nq bvl | GB tmZ wexb Rti fimgvb AvMvQv I `kevj mivZ nq Ges wQyDw`c Rb`q| GuU `kevj mivMi etj cwi vPZ |

(M) DEi kvLv Mòj `vUi cuog cvk`w`q`q DEi w`q cewnZ nq| DEi I `wqY ubi qxq tmZi ga`eZP cuog ntZ ce`vix GKU tmZi DrcuE nq| GuU ubi qxq cZtmZ etj cwi vPZ |

(5) j`veWv tmZ t DEi gnvmMi `yU kxZj Mòj `vUi ZK cuog I ce@civk`w`q`q cewnZ ntq j`veWvi Dcòtci wKueZP ntq DcgnvmMixq tmZi Dò I Mvp bxj Rti mqv`lLv mxi frte `Lv hvq| GB mqv`lLvK wgc`vri etj | kxZj Rj Dò Rj A`c`q`vix etj GB tmZ AvI GKUZ `wqY AMhi ntq DcmMixq tmZi w`v`e Wze hvq| j`veWvi tmZi m½ fimgvb wng`kj` Dò DcmMixq tmZi ms`utk` Gtm Zvi eid Mtj hvq| wng`kj` ewnZ K`g I wkv v g`v` tctq mg`Ztj mivZ ntq gMvQov mivU Kti | Avevi DcmMixq tmZi Dci w`q cewnZ evqyDò I Av``nq Ges j`veWvi tmZi Dci w`q cewnZ evqykvZj I i`c`nq| GB `v evqj msigk`Y GB AAjt So nq Ges Nb Kqvki DrcuE nq| wng`kj` `tj v RvrvR Pj vPjt e`vNvZ miv Kti |

(6) Kəziytməz t cəj cüdgv evqyöviv ZvnoZ nəq GvUvKvUkv gnvətki DƏi wəq th kxZj tməz cüdg t tK ce<sup>o</sup>vbqZ cəvvnZ nəq<sup>o</sup> Zv Kəziytməz bvtg cwiwPZ| wəqY Avtgvv Kvi wəqY wəq G tməz AvUj wəqUK gnvvmMti cəek Kti|

(7) dKj vU tməz t AvUj wəqUK gnvvmMti cəek Kivi ci Kəziytməzi kvLv DƏi wəqKK tetK dKj vU 0xccc I AvtRvUvvi ga wəq DcKj eivei DƏi wəqK cəvvnZ nəq<sup>o</sup>| GB tməZvU dKj vU bvtg cwiwPZ| GvU GKvU kxZj tməz|

(8) cüdg Məyj vU tməz t DcmvMixq tməzi wəZxq kvLvU Dİ wəq tetK AvBj vU I Məyj vU i wəqY cvk wəq AMəni nəq Məyj vU I e<sup>o</sup>vdb 0xccc I tWvfm cəvj xi ga wəq Də cüdg Məyj vU tməz bvtg DƏi wəqK cəvvnZ nəq<sup>o</sup>|

(9) K vbvix tməz t DcmvMixq tməzi ZZxq kvLvU 0K vbvix tməz bvtg wəqY wəq tetK cZvuj I cüdg AvvdKvi cüdg cvk wəq cəvvnZ nəq<sup>o</sup>| G tməz cti wəq kvLvq wəf<sup>3</sup> nəq<sup>o</sup>| cüg kvLv Avqb evqy cəvte wəqY-cüdg wəq tetK vbi vjxq tməzi m<sup>1/2</sup> vgvj Z nəq<sup>o</sup>|

(10) wəv b tməz t K vbvixK tməzi wəZxq kvLv cüdg AvvdKvi wəv DcKj i cvk wəq wəv tməz bvtg wəqY vbi vti Lv chS cəvvnZ nəq<sup>o</sup>| tmLv b G tməz vbi vjxq wəcixZ tməzi m<sup>1/2</sup> vgvk wəv DcmvMti cəek Kti<sup>o</sup>| GvU GKvU kxZj tməz| DƏi AvUj wəqUK gnvvmMti cəv wəq wəvfbətməz cəvtni dtj gvSvgnS v b tmvZevnZ Wvj cvj v, Nvm, kevj cəvZ. cəvj cwi gvty mivZ nəq th tməz wəvxb mvmMti m<sup>o</sup> nəq<sup>o</sup> Zv 0%kevj mvm bvtg cwiwPZ|

mvi vsk

K AvqZtbi wəq wəq AvUj wəqUck cü exi gta wəZxq epEg gnvvmvMi

K AvUj wəqUK gnvvmMti eivwR<sup>o</sup> K i vj metP<sup>o</sup>q tenk|

K GB gnvvmMti D<sup>o</sup> t<sup>o</sup> thvM<sup>o</sup> 10vU tməz i<sup>o</sup>q<sup>o</sup>| tməz vj vi gta tel<sup>o</sup> vj v tməz DƏi I wəqY vbi vjxq tməz, eivRj tməz, DcmvMixq tməz jvevvi tməzB cəv|

K DƏi AvUj wəqUK gnvvmMti cəv wəq wəvfbətməz cəvtni dti gvSvgnS v b tməz wəvxb nəq cto| GB v b mvmMti tkl mvmMti tkl fivM AveRv R<sup>o</sup> v AvtKvU mvmMti m<sup>o</sup> nəq<sup>o</sup> GB mvmvU kevj mvm bvtg cwiwPZ|

cvvVvEi gv vqb 3.15

1, AvUj wəqUK gnvvmMti ce<sup>o</sup>DcKj tKv b gnv<sup>o</sup> k wəq Aew<sup>o</sup>Z?

(K) DƏi Avtgvv Kv I wəqY Avtgvv Kv (L) AvvdKv I BD<sup>o</sup>ivc

(L) BD<sup>o</sup>ivc I Gvkvq (N) Gvkvq I Av<sup>o</sup> vj qv

2. AvUj wəqUK gnvvmMti Mo Mfvi Zv KZ?

(K) 120 d<sup>o</sup> (L) 1200 d<sup>o</sup>

(M) 12000 d<sup>o</sup> (N) 120000 d<sup>o</sup>

3. dKj vU tməzi wətkl Zj vK?

(K) kxZj tməz (L) Də tməz

(M) ugk<sup>a</sup>tm̄Z

(N) Zxe<sup>a</sup>tm̄Z

4. DcmvMiq tm̄tZi ZZxq kvLvuU uK bvtg cwi uPZ?

(K) Ktgi ytm̄Z

(L) jveŋWvi tm̄Z

(M) dKj vŪ tm̄Z

(N) K'vbi x tm̄Z

5. DĒi AvUj vuUK gnvmM̄ii cŏš' w`tq wewfbaetm̄Z cĕvni dtj gvSvgnS  
v̄tb tm̄Z evnZ wewfbaWvj cij v, Nvm, tkI j v Rvtg GKvU mvm̄t̄ii m̄ó Kt̄i t̄Q Zvi  
bvq uK?

(K) tUubm mvm̄i

(L) v̄kej mvm̄i

(M) gZ mvm̄i

(N) Kò.mvm̄i

BDvbU-uZb

DĒi ms̄t̄KZ

cV-1

1| M. 2| K. 3| L. 4| N.